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REPORT
of
Committee on Thesis

The undersigned, acting as a Committee of the Graduate School, have read the accompanying thesis submitted by Frances Erma Lowell for the degree of Master of Arts. They approve it as a thesis meeting the requirements of the Graduate School of the University of Minnesota, and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts.

Herbert Woodrow
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Oct. 19. 1916.

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REPORT
of
COMMITTEE ON EXAMINATION

This is to certify that we the undersigned, as a Committee of the Graduate School, have given Frances Erma Lowell final oral examination for the degree of Master of Arts. We recommend that the degree of Master of Arts be conferred upon the candidate.

Minneapolis, Minnesota

June 2, 1917.

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Children's Association Frequency Tables

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CHAPTER I

OBJECT

The primary object of the present investigation is to make a comparative study of the mental associations of children and adults. It is a study in group psychology, one group being that of children and the other that of adults. The study is made by means of association frequency tables.¹ We have compiled such tables from the responses of one thousand school children, of ages nine to twelve, to each of one hundred stimulus words. Since we used the same stimulus words as Kent and Rosanoff,² we have been able to take their adult frequency tables for comparison, and thus draw conclusions from a total of two hundred thousand cases of association.

A secondary object of our study, attained merely by the compilation of the children's association frequency tables, is to secure data which may serve as a standard in the studies of the mental associations of individual children. We believe that the responses of any child to the one hundred stimulus words,

¹ What is meant by association frequency tables is generally known, but should perhaps be fully explained. A word, called the stimulus word, is pronounced to a subject who has been instructed to respond with the first word that the stimulus word brings into his mind. The word responded with is called the reaction word or the response. The same stimulus word is given, say, to a thousand individuals. These thousand individuals will not all respond with a different word, but with one of a comparatively small number of words, a hundred or so. Now a frequency table is one which shows just how often each of these hundred or so words occurred in the one thousand responses. Suppose one half of the thousand subjects responded with the same word, its frequency would be 500. Usually the greater part of the thousand responses will be one of a very small number of words. These will all have a high frequency. On the other hand there are always a number of words found to have been given only a few times. Those given only once, that is, those having a frequency of only one in the frequency tables, are called 'individual' associations.

² Kent, Grace Helen, and Rosanoff, A. J., 'A Study of Association in Insanity'. *Amer. J. of Insanity*, Vol. LXVII, 1910, 1 and 2.

particularly when obtained several times and interpreted understandingly, afford one of the best pictures of his mental constitution that can be quickly obtained. It is in the picture, in the qualitative description, that we see the main value of the free association test,—not in any measurement it may give of the amount of intelligence. When regarded in this light, there is no reason why, in individual work, introspections should not be obtained, nor why association times should not be measured with the stop watch. It would seem, rather, to be imperative to obtain some introspective clues to the explanation of all exceptionally slow or very unusual associations. The frequency table is of value, in such individual study, as indicating what responses are most common, what most children do, and thereby affording a viewpoint from which to judge the individual child. Our various classifications of the data of the frequency tables may also be of value in this connection.

It is true that attempts have been made to use the free association test as a measure of amount of intelligence. The test has had some success in this way and is probably of some value. A children's frequency table will prove invaluable to all such investigations that may be conducted in the future. We repeat, however, that the main value of the association test is not in telling us how much mind but what kind of a mind the child has. It is only as a qualitative test that it deserves the encomiums heaped upon it by so many authors, particularly Woodworth and Wells. The latter refer to the test as having achieved, and being likely to retain, a place "in the foremost rank among the methods of individual psychology,"³ and assert that the results that may be obtained by the use of standard frequency tables give "perhaps the best objective correlate of temperament at present to hand."⁴

By our comparison of children and adults, we shall show that between the child and the adult there exist certain striking differences in mental make-up, differences with which we believe that the psychologist and the teacher of children should be thor-

³ Woodworth, R. S., and Wells, F. L., 'Association Tests,' *Psychol. Monog.*, Vol. XIII, 1911, 57, p. 73.

⁴ *Op. cit.*, p. 74.

oughly familiar. But we shall have nothing to say about how much more intelligent the adult is than the child.

The present study suggests a further use of our children's frequency tables, namely, its use for comparison with similar frequency tables obtained from children of different social status or race or of defective mentality.⁵

⁵Wreschner writes as follows: "Darum erweist sich aber das Experiment über Reproduktion und Assoziation als geeignete Unterlage einer angewandten Psychologie, wie kein anderes. Macht doch schon jetzt von ihm ausgiebigen Gebrauch die Sprachforschung, die Psychopathologie, die Jurisprudenz und die Pädagogik, und erkannten wir doch auf Schritt und Tritt, von welcher Tragweite es für die Psychologie der individuellen Differenzen ist. Voraussetzung all dieser praktischen Anwendungen ist aber eine möglichst genaue Kenntnis der Bedingungen, Eigenarten und Formen der normalen Reproduktion und Association." *Ztsch. f. Psychol. u. Physiol. d. Sinnes.*, Ergänzungsband, 3, 1907, p. 554.

CHAPTER II

PREVIOUS WORK

A knowledge of the methods and results of previous investigators of children's associations is indispensable to the proper interpretation and evaluation of the present data. Moreover, while the present work is intended primarily as a study in comparative group psychology, the present frequency tables may be employed by others in the study of individual differences. The success attained in this direction, however, will depend largely upon the user's knowledge of the psychology of association in children, as already established. It seems desirable, therefore, to give a brief résumé of preceding investigations, in so far as they bear upon the present study.

The first careful study of children's associations was published in 1898 by Ziehen.¹ Ziehen used 45 boys of ages 8 to 14. These he studied individually, chiefly by the oral method. The instructions to the subject, while similar to those used by later investigators, may have differed from those somewhat because of certain implications or suggestions. The child, upon having a word called out to him, had, as quickly as possible, to indicate that representation (*Vorstellung*) which immediately followed the representation awakened by the stimulus word.² It is evident that there is here a suggestion that the stimulus word called out to the child shall not immediately be followed by another word, but that it shall first call up an image and that this first image shall then be followed by a second image, to be designated verbally. This suggestion was no doubt strengthened by the further questioning of the child, since, immediately upon giving his response, he was asked whether he had thought of a definite object.³

¹ Ziehen, Th., *Sammlung von Abhandlungen aus dem Gebiete der pädagogischen Psychologie und Physiologie*, Vol. 1, 1899, 6, pp. 66.

² *Op. cit.*, p. 10.

³ "Antwortete das Kind Z. B. auf "Frosch" mit "Laubfrosch," so frug ich, ob das Kind an einem bestimmten Frosch und Laubfrosch gedacht habe,

Ziehen formulated his main problem as follows: Does the association of ideas in the child as compared with the adult, show a preponderance or a lack of certain types of association? To answer this question, he compared the results obtained with children with those obtained from a "large number" of "analogous investigations" with adults. He obtained a very striking and important result. With adults, as the commonest case, he found that the stimulus word awakened a general idea (*Allgemeinvorstellung*) which in turn called up another general idea, designated by the response word. He estimates that this form of association occurred in 80 per cent of all the associations of his adults. With children, on the other hand, this association through general ideas was rare, though Ziehen says that it gradually increases in frequency with the age of the child. As by far the commonest case with children, he found that the stimulus word called up an individual or concrete idea, which called up another individual idea (*Individualvorstellung*). Ziehen says that while it is well known that a child does not employ the same range of general ideas in his thinking as does the adult, he was nevertheless astonished to discover to what extent the individual presentations predominate in the mind of the child. He concludes that in this respect the association of ideas in the child is different *toto coelo* from that of the adult.⁴ Adults tend to think in terms of general ideas, children in terms of concrete representations.

Besides this fundamental difference between children and adults, Ziehen mentions several minor differences. Verbal associations occurred but seldom with children, apparently much less often than with adults, and were apt to take the form of word-completion, e.g., post.—card. Rhyme associations occurred very seldom, much more seldom than with adults. The same is true of associations of words commonly connected, e.g., hand,—foot; hope.—love.

und erhielt Z. B. zur Antwort: "ja an den Frosch, den Ring's (eine bekannte Familie) vor 3 Wochen gehabt haben." In anderen Fällen antwortete das Kind, es habe "an alle Frösche" oder "an keinen bestimmten" gedacht u. s. f." *op. cit.*, p. 11.

⁴ *Op. cit.*, p. 32

Ziehen was followed in his pioneer work by Meumann,⁵ who studied the mental associations of over 800 school children, distributed in 19 classes, in the hope of obtaining criteria of degree of intelligence. He used 4 groups of 12 words each: first, concrete substantives; 2nd, verbs; 3rd, adjectives; 4th, abstract substantives. The words were read to a class of children by their teacher, and to each word the children had to write as a response the very first word that came into their head. The teacher gave a few examples first. With few exceptions, the children readily comprehended the aim of the experiment. Among the 8 year old children, however, there were a few who continually wrote words which stood in no connection with the stimulus words. Meumann presents hardly any of his actual data, and it is not clear just what method he used in arriving at his conclusions. The latter, however, are stated in great detail.

As characteristics of the associations of the less intelligent children, which serve to distinguish them from the more intelligent, Meumann mentions the following tendencies:— 1. The less intelligent more often misunderstand or misinterpret the stimulus word. 2. They more often fail to write down a response. In the case of abstract substantives, they may omit 60 to 70 per cent of the responses. 3. They give a greater number of senseless responses. The word written may be senseless or may stand in no apparent relation to the stimulus word. 4. Their responses show less mental work, or, as we might say, less thought. They take more often the form of mere word changes or rhymes, simple opposites, or words frequently named together, e.g., cat,—mouse. 5. Their responses are more dependent upon the connections established in their school exercises. 6. They are more apt to deviate from the concrete associations characteristic of children and to exhibit an apparent precocity by responding with general and abstract terms. The greater likelihood of opposites in the case of the less intelligent would also have to be included under this heading, since opposites are characteristic of adults. 7. As already noted by Ziehen, their responses are more apt to show

⁵ Meumann, E., 'Intelligenzprüfungen an Kindern der Volksschule'; *Die experimentelle Pädagogik*, Vol. I, 1905, pp. 86-101.

perseveration, of which Meuman distinguishes three kinds. First, the response may consist in the repetition of a previous stimulus or response word. After its first occurrence, such a response stands in no apparent connection with the stimulus word. Second, and more commonly, a stimulus word starts a dominating chain of representations which then determine successive responses independently of the stimulus word. Third, the subject may hold to the same category of response, e.g., a strengthening adjective. This is only an index of unintelligence when the persistent category is not typical of the age in question.

It should be remembered that the data given in support of the above conclusions consist only in occasional illustrations. One of the conclusions which we believe stands in particular need of verification is that the less intelligent children are more apt to give logical opposites.⁶ It should be noted, further, that the above-mentioned differences between the intelligent and unintelligent children are merely differences in the frequency with which certain types of responses are found in the case of groups of such children. It is not established that any of them are reliable indices of the intelligence of a given individual.

Meumann also mentions certain characteristics which he regards as distinguishing younger children from older ones. One might expect these characteristics to be the same as those distinguishing the less intelligent children from the more intelligent. Meumann himself suggests the following important proposition: the symptoms of relative stages in the development of the child's intelligence are at the same time symptoms of the relative intelligence of individuals of like age.⁷ However, the characteristics which Meumann attributes to the more intelligent children, as compared with the less intelligent, are not identical with those which he attributes to the younger children as compared with the older. With the younger children, he says, the logical opposite hardly ever occurs, while, with the 13 and 14 year old children, it may constitute 90 or even 100 per cent of the responses.⁸ The

⁶ *Op. cit.*, p. 91.

⁷ *Op. cit.*, p. 101.

⁸ *Op. cit.*, p. 99.

difference is particularly striking when adjectives are used as the stimulus word. The 8 and 9 year olds, in place of giving the logical opposite, seek mainly a substantive which the adjective given as stimulus word describes, e.g., white,—paper; black,—coal. On the other hand, as already noted, Meumann states that the less intelligent are more apt to give the logical opposite than the more intelligent.

Another alleged exception to the parallel between age and intelligence has already been mentioned, namely, the tendency towards association of general ideas in the less intelligent children and in adults as contrasted with the use of concrete imagery in the case of the normal children.⁹ In view of the importance of these alleged similarities between adults and the more unintelligent children, and the absence of supporting *data*, the matter should evidently be reinvestigated.

Winteler,¹⁰ like Meumann, was interested in association as a possible means of diagnosis of intelligence. He obtained associations from 8 boys, all about 10 years of age, using a list of 40 stimulus words. The list included 25 nouns and 15 verbs and adjectives. Of these 8 boys, 3 were chosen, on the basis of their school work, as the most intelligent of their class, and 4, as the most unintelligent. The eighth boy was supposed to be of intermediate intelligence. Upon classifying the responses, according to their grammatical form, into nouns, adjectives, verbs and adverbs, he found that he could distinguish three reaction types.¹¹ These three types were about evenly represented, two of them by three boys each and the third by two. They showed no relation to the degree of intelligence. One type reacted to substantives mainly with adjectives, to adjectives with substantives, and to verbs with substantives; this is termed the perceptual (*anschaulich*) or describing type. Another type answered to substantives mainly with other substantives, to adjectives with other adjectives and to verbs with other verbs; this is designated the com-

⁹ *Op. cit.*, p. 93.

¹⁰ Wintler, Jr., 'Experimentelle Beiträge zu einer Begabungslehre,' *Die experimentelle Pädagogik*, Vol. II, 1906, pp. 193-207.

¹¹ *Op. cit.*, p. 207.

paring or relating type. The third type is mixed. Those subjects responding largely with adjectives showed considerable perseveration, which Winteler explains as due to a closely limited stock of words.

Wreschner,¹² in the course of his extremely detailed study of association, obtained data on free association with two children, one of 3½ and one of 5½ years of age. He recorded their oral responses to something over 300 words, and compared them with the responses of twenty adults, with whom he used a list of words varying in number from 57 to 503. All the responses were classified by the aid of a classification schema of about forty headings, and a comparison then made of the percentages for adults and children under each heading.¹³ Of course the number of children used, two, is entirely too small to give these percentages any considerable reliability. The investigation of Winteler, referred to immediately above, shows how greatly children may vary in the type of their associations, since, in a group of only eight boys, he distinguished three markedly different classes.

Without attempting to explain in full Wreschner's classification schema, we shall note the main similarities and differences shown to exist between children and adults by his percentages.

Adults gave over twice as many logical associations, over one fourth of their associations being of this sort. This appears to be due to the greater frequency of association of opposites, similars and synonyms, and associations from effect to cause. Association of opposites is by far the commonest form of logical association amongst adults, and is about five times as frequent with the adults as with the two children. Another type of association which occurred more frequently with the adults than with the children is that which Wreschner terms verbal or speech completion. It includes three sub-types: word completion, e.g., snow,—ball; 'speech reminiscences,' e.g., fox,—goose; and a certain class of 'attributive unions,' e.g., mother,—dear. For all of

¹² Arthur Wreschner, 'Die Reproduktion und Assoziation von Vorstellungen,' *Zts. h. f. Psychol. u. Physiol. d. Sinnes, Ergänzungsband*, 3, 1907, pp. 559.

¹³ *Op. cit.*, pp. 285-294.

these sub-types, the percentages were greater for the adults. Taken together, they constituted about a fourth of the adults' associations but only 7 per cent of the children's.

The children, on the other hand, favored two forms of predicative connections. One of these is the reaction-word-subject type, in which the reaction-word constitutes a subject of the stimulus-word, e.g., round,—circle. This form of reaction constituted about one fourth of the children's associations but less than one tenth of the adults'. The other predicative connection preferred by the children is the 'stimulus-word object,' in which the stimulus word is the object of the reaction-word, e.g., sand,—strew. This form of reaction constituted nearly a tenth of the children's associations but only one or two per cent of the adults'. The children also gave more frequently than adults associations classified as spatial and temporal localizations, e.g., windy,—outside; still,—night. These constituted about one tenth of the children's associations, but only about one thirtieth of the adults'. In all other respects than those mentioned no appreciable differences in association type existed between the adults and the children.

Saling¹⁴ made some experiments on free association with a group of 34 school girls from 7 to 8 years old. The stimulus words were sixty in number and included ten of each of six varieties. The children had to think their reaction-words, and upon a signal from the experimenter to write them upon blanks. Saling compares the data thus obtained with results obtained on adults by Thumb and Marbe.¹⁵ This comparison, made in the form of a table,¹⁶ bears only on one point, namely, whether the most frequent response given to any stimulus word has a greater frequency with adults than with children. The table indicates that the most common response has a higher frequency, that is, constitutes a larger percentage of all the responses, in the case of adults than with children.

¹⁴Saling, Gertrude 'Associative Massenversuche,' *Ztsch. f. Psychol. u. Physiol. d. Sinnes.*, Vol. XLIX, 1908, pp. 238-253.

¹⁵Thumb and Marbe, 'Experimentelle Untersuchungen über die Psychologischen Grundlagen der sprachlichen Analogiebildung,' Leipzig, 1901.

¹⁶*Op. cit.*, Tabelle I, p. 240.

This conclusion is clearly to a large extent due to the peculiar list of words used by Saling. It is noteworthy in the following respects: it is one-third composed of adverbs; it contains no verbs; it includes the names of the numerals one to ten; ten pronouns, and only ten nouns and ten adjectives; and, most striking of all, it is made up almost entirely, with the exception of numerals, of pairs of opposites or coordinates, e.g., father,—mother; brother,—sister; large,—small; old,—young; I,—you; he,—she; here,—there; everywhere,—nowhere; now,—never; this,—that. Both members of each such pair are included in the list of stimulus words. Now the data presented in the present study will show very clearly that such pairs of words as these constitute the type of associations which, above all others, characterizes adults in contradistinction from children.¹⁷ The most frequent response to such words with adults is nearly always the other member of the pair; and it is not surprising that the most frequent responses to such words show a higher frequency with adults than with children. The natural tendency of adults to respond by the opposite or the correlative would no doubt be strengthened by the constant occurrence of opposites in the list of stimulus words. It is clearly the peculiar character of Saling's list of stimulus words which accounts for the very high frequency of the most common or preferred responses. On the average, with adults, the frequency of the preferred response was 56 per cent. The Kent-Rosanoff adult frequency tables, on the other hand, show only one response of a frequency over 56 per cent, while they show an average frequency for the most common response of only 26 per cent.¹⁸

It is evident, from the above considerations, that we are not entitled to generalize Saling's conclusions. With other stimulus words, the frequency of the most favored response might not be as great in adults as in children. The result obtained would clearly depend upon what words were used as stimulus words.

Rusk¹⁹ studied free association in 22 school boys, from 7½

¹⁷ See Chapter VI, p. 84-02.

¹⁸ Cf. Chapter VII, p. 97-98.

¹⁹ Rusk, Robert R., 'Mental Association in Children', *Brit. Journal of Psychol.*, Vol. III, 1900-1910, pp. 340-385.

to 14½ years of age. The stimulus words, thirty in number, were presented visually instead of orally. The instructions used were as follows: "A word will be shown, e.g., dog. When anything comes into the mind, either name it or say 'Now'; then tell as exactly as possible what passed in the mind. Take your own time, but answer immediately the first idea comes into your mind."²⁰ Among the conclusions reached may be mentioned the following:

"The degree of perseverance varies inversely with age and intelligence. The present investigation confirms the results of previous workers on this point."²¹

"The present investigation confirms the statement of Ziehen as to the astonishing definiteness and vividness of the child's imagery which has much the same characteristics as its perceptual experience, viz. vividness and definite spatial and temporal localization: it also supports the general view as to the great predominance of concrete visual imagery over other forms of imagery accompanying the thought processes of the child.

"Children who are best endowed with respect to the various forms of imagery do not, it would appear from the analysis of the introspection here undertaken, necessarily stand highest in school."²²

Reinhold,²³ in 1910, published a children's association frequency table, based on data obtained from 300 school girls with 46 stimulus words. The girls ranged from 7 to 17 years of age, and were distributed in 10 successive classes, 30 in each class. The stimulus words were read to the class, and the children wrote down the first word that came to them. The number of different reaction words given by the 300 children to one stimulus word, was, on the average, 68.1. The average frequency of the most frequent response was about 26 per cent, but varied from 51.7 per cent (thunder,—lightning) to 10.0 per cent (play,—

²⁰ *Op. cit.*, p. 359.

²¹ Cf. Meumann, p. 6 above, conclusion no. 7.

²² *Op. cit.*, p. 385.

²³ Reinhold, Ferdinand 'Beiträge zur Assoziationslehre auf Grund von Massenversuchen,' *Ztsch. f. Psychol. u. Physiol. d. Sinnes.*, Vol. LIV, 1910 pp. 183-214.

child(ren) and understand,—hear). The frequency with which no response was given varied from 1.7 per cent (for *tree*) to 22 per cent (for *understand*). Reinhold studied the variation with age in the percentage (of all the responses) constituted by the most frequent responses. He found no very reliable change in this percentage throughout the 10 different grades.²⁴ It has been mentioned above that Saling found the frequency of the most common responses to be definitely higher with adults than with children. The statement was made that this result would depend upon the words used, a statement that is verified by Reinhold's failure to find more than a mere suggestion of this tendency in comparing children varying in age from 7 up to 17. Reinhold's list of words, consisting mainly of unrelated nouns and verbs, was very different from that used by Saling.

Reinhold makes some interesting observations on the value of the free association test for the diagnosis of intelligence. Dividing each of his ten classes on the basis of school performance into halves, an upper and a lower, he finds no correlation between intelligence and the tendency to give sound associations, that is, associations where stimulus word and reaction word show similarity in sound. This finding contradicts one of Meumann's propositions.²⁵ Reinhold is, in general, skeptical of the value of the free association method for the diagnosis of individual ability. He points out that the reaction type is not always constant, but is easily and extensively modified by slight and unknowable influences.²⁶ For example, a school girl, who upon first testing gave 15 per cent of sound associations, upon second testing gave only 5 per cent, while another gave at first testing only 2 per cent, but upon retesting gave 75 per cent.

Goett²⁷ interested himself mainly in the use of free association tests for the diagnosis of mentally abnormal children, but, for the sake of comparison, studied normal children as well. He

²⁴ *Op. cit.*, p. 184.

²⁵ See p. 6, no. 4.

²⁶ *Op. cit.*, pp. 213-214.

²⁷ Goett Theodor, 'Assoziationsversuche an Kindern,' *Ztsch. f. Kinderheilkunde, Originale* 1, 1911, pp. 241-345.

studied individually and by the oral method, using a list of 100 stimulus words, 52 children, between 8 and 14 years of age, of whom 24 were normal, 12 not quite normal, and 16 feeble minded, epileptic or hysterical. He did not ask for introspections as he thinks them unreliable when obtained from children.

He gives first his results with normal children. He states that the reaction words themselves, regarded as such, and without respect to their relation to the stimulus words, have little interest. However, he notes the not infrequent presence in normal children of reactions by phrases, of faulty reactions, including both cases of no response and senseless response, and of perseveration, noting particularly the perseveration of prefixes, e.g., *un* and of suffixes, e.g., the German *ig*. As regards the relation of the responses to the stimulus words, Goett distinguishes between inner associations, or associations by conceptual relationship, e.g., ocean,—sea, horse,—animal, and outer associations, or associations by spatial and temporal contiguity, e.g., ocean,—ship, horse,—wagon.²⁸ Three-fourths of the children's reactions are found to be inner associations. Within the inner associations, he distinguishes three types, which he calls the predicative, the coordinating (including the contrasting) and the word compounding. The latter two types stand in a relation of opposition to the predicative. Like Jung, he defines the predicative associations as "all judgments, characteristics or activities that are in any manner related to the stimulus word as subject or object."²⁹ The following are illustrations of this type: glass,—brittle; father,—good; good,—father; tooth,—protruding; and sing,—song. This class constitutes 41 per cent of all the children's responses, or over half of the inner associations. For children under 12 years they constitute 50 per cent of all associations, while for children over 12 years they form only 33 per cent. A further very interesting finding is that the percentage of these predicative associations varies with the social class to which the children belong.³⁰ We reproduce the figures:

²⁸ *Op. cit.*, p. 266.

²⁹ *Op. cit.*, p. 272.

³⁰ *Op. cit.*, p. 273.

| | Children under 12 | Children over 12 |
|------------------|----------------------|---------------------|
| 'Proletariate' | 60% | 40% |
| 'Better circles' | 30% | 25% |

With psychopathic children, Goett finds the free association test to be of decided diagnostic value. He mentions several features which he regards as characteristic of the associations of the feeble-minded. As compared with normal children, they are slower; they show more perseveration; they give a larger percentage of predicative reactions; they react more often with phrases instead of a single word, and persist in this form of reaction in spite of instructions to react with a single word.³¹ All the features which Goett mentions as differentiating the feeble-minded from the normal, he also mentions as differentiating the younger children from the older. On the other hand, he finds that rhymes, word-completions, citations and simple contrasts very seldom occur with the feeble-minded. In only one of his cases, and that a case of moral rather than intellectual defect, did he find instances of association by contrast.³² These findings are in opposition to those of Wimmer,³³ and are interesting in connection with the comment above regarding Meumann's conclusions.³⁴

Rosanoff and Rosanoff³⁵ published a study in 1913 designed to answer the question, "At what age in childhood or in youth do the associational tendencies, as they are observed in normal adults, become fully developed, and what is the rate and manner of their development?"³⁶ Using the Kent-Rosanoff list of 100 words, they obtained the responses of 300 school children, twenty-five of each age from 4 to 15 inclusive.

"In making the tests the technique as originally presented

³¹ *Op. cit.*, p. 327.

³² *Op. Cit.*, p. 324.

³³ Wimmer, A., 'Ueber Assoziationsuntersuchungen, besonders schwachsinniger Kinder,' *Monatsschr. f. Psych. u. Neurol.*, Vol. XXV, 1909, pp. 169-268.

³⁴ P. 7.

³⁵ Rosanoff, Isabel R., and Rosanoff, A. J., 'A Study of Association in Children,' *Psych. Rev.*, Vol. XX, 1913, 43-89.

³⁶ *Op. cit.*, p. 43.

could not in all cases be followed exactly; the best way seemed to be by asking the child, after his confidence had been gained and he had become composed, 'What does *table* make you think of?' Failing to obtain a response some other word would be selected: 'What does music make you think of?' or 'What does black make you think of?' In this way, eventually, a response was obtained, and it was then possible to proceed with the stimulus words in their proper order."

"Many of the stimulus words often evoked either no response at all or only some such response as 'I don't know that' or 'Mamma never taught me that'; . . . Such instances were recorded as failures of reaction, but at the conclusion of every test the stimulus words to which no responses were obtained were given again with a view to reducing the number of failures of reaction in every case to a practical minimum."⁸⁷

The association records obtained from the children were analyzed in accordance with the Kent-Rosanoff classification. Any response occurring only once in one of the Kent-Rosanoff frequency tables for adults is regarded as an individual adult association, unless it is a grammatical variant or derivative of some other word in the table, in which case it is called a 'doubtful' reaction. The percentage of individual reactions in the Kent-Rosanoff adult frequency tables is 6.8. This means that to each of their stimulus words, there occurred, excluding doubtful reactions on an average 68 responses with a frequency of only 1. Now the data obtained with children were classified according to the same rubrics, using the adult frequency tables as a standard.

Any reaction given by the children which did not occur at all in the adult frequency tables was classified as individual. This procedure is of value only in shedding light on the particular problem asked by Rosanoff and Rosanoff, as to when the associational tendencies of children become like those of adults. It will not determine whether children give more individual associations than adults. An individual association in the case of an adult means an association not given by other adults. That it may not be given by children does not make it an individual asso-

⁸⁷ *Op. cit.*, p. 44.

ciation. For example, the association, stomach,—organ, has a frequency of 81 in the Kent-Rosanoff table, and the association, hand,—foot, a frequency of 204. Neither of these associations occurs at all in our children's tables. Now for adults, these associations could not be classified as individual. Many such illustrations could be given.

Similarly, an individual association in the case of a child should mean an association not given by other children, and should not be called individual merely because it does not occur with adults. We could give a long list of associations which have a frequency of 10 or over in our children's tables but which do not occur at all in the Kent-Rosanoff tables, and which would, consequently, have to be classed as individual associations if we followed the procedure of Rosanoff and Rosanoff. The following are a few illustrations, with the frequencies found in our children's tables: bread,—slice (13); boy,—trouser (16); moon,—face (13); street,—lamp (41); spider,—spin (10); beautiful,—doll (30); red,—lantern (13); working,—clothes (15); sour,—cream (52); loud,—cry (29); and carpet,—dirty, (35). Any procedure which classifies such children's associations as individual, merely because they are not found in the Kent-Rosanoff tables, even though it may be of aid in answering some particular question, is evidently far from satisfactory.

Even had Rosanoff and Rosanoff compiled children's frequency tables from their data, which they did not, it would have been impossible to reliably compare adults and children with respect to individual associations, because of the difference in the size of the groups. A frequency of one in a total of one thousand is a different thing from a frequency of one in a total of three hundred. The natural expectation would be that as the size of the group increased the absolute number of individual reactions would increase but that the percentage of such would decrease. This would be the natural result because of the principle noted by Saling that there is a tendency among normal persons to respond to any stimulus word by one or another of a fairly small group of words.⁸⁸ The impropriety of comparing

⁸⁸ *Op. cit.*, p. 14.

percentages from association frequency tables based on widely different numbers was fully stated by Reinhold³⁹ and proved statistically by Dauber.⁴⁰

Passing from the consideration of methods to that of conclusions, we find that the Rosanoffs state as their main conclusion that, "as compared with adults, children, especially those under eleven years of age, give a larger number of doubtful and individual reactions and of failures of reaction, there being a corresponding reduction of common reactions."⁴¹ They state further that, "All the characteristics by which test records of children differ from those of adults are most marked in the youngest children, grow less marked with advancing age, and become practically obliterated at the age of eleven years." Now the Rosanoffs have compared children and adults only with respect to the following characteristics: individual and doubtful reactions and failures of response. Their statement, then, to the effect that at the age of eleven years *all* characteristics of association in children are the same as in adults is evidently much too broad. We emphasize this point, because we believe that the characteristics in which the Rosanoffs have compared adults with children so far from being all-inclusive, are, in fact, comparatively unessential, technical⁴² matters,—what Goett calls the 'by-products'

³⁹ "Wenn man die Zahl der Versuchspersonen immer weiter vermehrt, tritt infolge der Beschränktheit des Sprachschatzes und auch schon infolge der Beschränktheit der Anzahl der bekannteren Wörter schliesslich der Fall ein, das es den neu hinzukommenden Versuchspersonen unmöglich oder wenigstens schwierig ist ein neues Reaktionswort zu nennen. Sie werden infolgedessen genötigt sein, um so mehr übereinstimmende Wörter zu nennen, je mehr die Zahl der Versuchspersonen wächst. Es ist daher nicht richtig, wie Wreschner es tut, die Zahl der bei einem Reizwort vorkommenden verschiedenen Reaktionswörter in Prozenten anzugeben." *Op. cit.*, p. 186.

⁴⁰ Dauber, Johann., 'Ueber bevorzugte Assoziationen und verwandte Phänomene,' *Ztsch. f. Psychol. u. Physiol. d. Sinnes.*, Vol. LIX, 1911, Table 8, p. 196.

⁴¹ *Op. cit.*, p. 88.

⁴² Whipple writes as follows: The author (Whipple) is inclined to believe that here, as in not a few other instances in which children differ from adults in psychological tests, what we are really bringing to light is an inability of the children to understand the instructions or disinclination to follow them if they are understood.—'Manual of Mental and Physical Tests,' Part II, 2d ed., 1915, p. 62.

of the association experiment.⁴³ We should say that the main comparison, and the only one which could really utilize all the data of frequency tables, was a comparison of the response words of children with those of the adults, to see whether these responses were the same and to what extent their frequency was the same. This the Rosanoffs have not attempted.

In conclusion, we shall mention three recent studies designed to show the value of free association experiments in the diagnosis of feeble-mindedness and the determination of mental age. These are the studies of Eastman and Rosanoff, Otis, and Römer.

Eastman and Rosanoff,⁴⁴ after a study of 253 subjects selected on the basis of backwardness in studies as rated by teachers, conclude that states of arrested mental development present certain fairly characteristic associational tendencies. These tendencies are characterized mainly by failures of reaction, non-specific reactions, e.g., person, man, article, nice, use, etc., and certain types of individual reactions.⁴⁵

Otis⁴⁶ studied 132 mentally defective children and 202 normal children by the Kent-Rosanoff association test. In the case of normal children, an unusual variation in procedure consisted in testing two children at the same time by the oral method. It is said, however, that the type of response was not affected by this method; that if a child tended to reply by associations of a certain type, he would continue to do so even though his neighbor were replying by associations of a different type. It is said, also, that the general result was not affected by the personality of the examiners, two of whom cooperated in giving the tests. Otis distinguishes five types of response,⁴⁷ as follows:—(I) Repetition of stimulus. If 50 per cent or more of a child's reactions

⁴³ Goett, Th., 'Associationsversuche an Kindern,' *Ztsch. f. Kinderheilkunde, Originale* 1, 1911, p. 258.

⁴⁴ Eastman, Frederic C., and Rosanoff, A. J., 'Association in Feeble-Minded and Delinquent Children,' *Amer. J. of Insanity*, Vol. LXIX, 1912, pp. 125-141.

⁴⁵ *Op. cit.*, p. 141.

⁴⁶ Otis, Margaret, 'A study of Association in Defectives,' *Journ. of Educ. Psychol.*, Vol. VI, 1915, pp. 271-288.

⁴⁷ *Op. cit.*, p. 275.

are the repetition of the stimulus word, the child belongs to this type. (II) Non-logical. This means that words are given at random without connection with the stimulus word. (III) Sound reactions. The reaction word is connected by sound with the stimulus word. It may be either a word or neologism. (IV) Reaction consists of more than one word. This may be a noun with modifier, a phrase or a complete sentence. (V) Reaction one word, normal type. At least 50 per cent of these reactions must be found in the frequency tables of Kent and Rosanoff. Type I (repetition of stimulus word) is common in normal children of 4 or 5 years of age and in defectives of 2 to 6 years mental age. Type II (non-logical or incoherent) occurs in normal children of 4 to 8 years of age, and in defectives from 3 to 5 years of age. It is commonest in normal children of 5 years. Type III (sound reactions) appears sporadically. Type IV (reaction consists of more than one word) occurs in normal children from 4 to 8 years of age, and in defectives from 4 to 10 years of mental age. Type V (reaction one word, normal type) occurs in both normal and defectives as early as the age of 4 but is not established as the prevailing type much before the age of eight.⁴⁸

Our comment upon this work of Otis, as upon that of Rosanoff and Rosanoff, would be that it deals merely with by-products of the association test. From our viewpoint, the main thing she establishes, so far as the psychology of association is concerned, is that children under 8 are too young for the Kent-Rosanoff test. We would also criticize strongly the use of the Kent-Rosanoff adult tables for the determination of the normality of children's responses (see Type V).

Römer⁴⁹ is interested mainly in the use of the favorite, or most frequent, responses as a possible means of the diagnosis of feeble-mindedness. He obtained free association responses by the oral, individual method from 120 mentally retarded children, children of the *Hilfschule* of Würzburg, between the ages of 7.3

⁴⁸ *Op. cit.*, p. 282.

⁴⁹ Römer, Fritz, 'Associationsversuche an geistig Zurückgebliebenen Kindern,' *Fortschritte d. Psychol. u. ihrer Anwendungen*, Vol. III, 1914, pp. 43-101.

and 15.6 years. For comparison, he obtained data by written class responses from 441 normal, school children from 7 to 14 years of age. His conclusions bear not only on the favorite responses, that is, those of highest frequency, but upon all responses of a frequency over one, which we may designate common responses. He finds that with retarded children the favorite responses are different than with normal children, and that, except in cases where the stimulus word is a numeral, their frequency is less. The frequency of the favorite responses increases with the chronological age of the normal children and with the mental age of the retarded children. It will be remembered that Reinhold did not find much regularity in the relation between the frequency of the favorite responses and age, but Römer thinks that it is definite enough to give value to free association as an intelligence test. He reckons, for each child, what percentage of his reactions consists of favorite responses. He then calculates for children of each age what percentage of favorite responses is exceeded by three fourths of them. This latter percentage he calls the minimal normal percentage of favorite reactions. He then observes that the great majority of his retarded children fall below the minimum for normal children of the same chronological age, but equal or exceed that of normal children of the same mental age.⁵⁰

As regards the form of the associations of retarded children, Römer notes a very frequent occurrence of sound associations, of word completions, of the formation of new words, and of perseveration.⁵¹

In justice to the authors mentioned in the preceding review, it should be noted that reference has been made only to work which bears directly upon the problem of the present investigation, that is, upon the characteristics of free association in children. We have taken no account of work that has been done on controlled association, in which the response has to be of a certain category, nor have we discussed the somewhat conflicting findings on association time. On the latter point, however, a

⁵⁰ *Op. Cit.*, pp. 100-101.

⁵¹ *Op. Cit.*, p. 99.

few words should be added, though it is unnecessary to attempt a detailed history.

By association time, is meant the time (usually measured by a stop watch in fifths of a second) elapsing from the pronouncing of the stimulus word until the occurrence of the subject's response. With unpracticed adults, the median association time is usually somewhere between 6 and 15 fifths of a second. With practice, this time tends to decrease towards a limit of 6 fifths of a second.⁵² Now with children of 9 to 12 years of age, the association time is on the average longer than with adults, but at the same time very irregular. We have, also, noted enormous individual variations in children's association time. In spite of the fact that association time is unquestionably greater in children than adults, it has been hard to establish any reliable correlation in children between association time and age, mental or chronological.

In the case of adults, when any association requires considerably longer than the average association time of the individual, this association has unusual significance. It has been shown that such lengthened times are often due to the stimulus word being connected with strongly emotional complexes. Even in adults, however, there are other factors than emotional connections which tend to lengthen the free association time. On this point we may well quote from Wells.

"The free association time is exactly what its name implies, a measure of associative freedom. This involves a freedom of presentation, of selection, of expression. We obtain uniformly short association times in those individuals in whom all these processes are comparatively free. Where longer times are found, obstruction of some sort is indicated. . . . This is as far as the unsupported association time will carry one. It remains then to become acquainted with the nature of the obstruction. Where it is found, it must not be incontinently set down to emotional factors, but the roles of suppression, indecision, and the like, must be carefully compared and weighed by the best avail-

⁵² Wells, F. L., 'Practice Effects in Free Association,' *Amer. J. of Psychol.*, Vol. XXII, 1911, p. 13.

able means. Then only do the differences in association time assume their complete significance for the test, which is the most searching of all psychological experiments, and gives more coercively than all others, a paradigm of the subject's mental habits."⁵⁸

There is little data on the causes of lengthened association times in children, but it seems probable that they are so very frequently connected with lack of familiarity with the stimulus word or with inability of the stimulus word to call up any associated word, that they have not the same value as with adults.

In conclusion, we may summarize briefly the present status of our knowledge of children's associations as compared with those of adults. Only two investigators have undertaken any systematic comparison of the association types of children with those of adults. These are Ziehen and Wreschner. Ziehen's main result, which is very important, consists in the determination that children make much greater use of concrete images and much less use of abstract ideas than do adults. Wreschner arrives at a number of interesting differences in association type between children and adults, but he used only two children, the oldest of whom was only $5\frac{3}{4}$ years of age.

In additions to the comparisons of Ziehen and Wreschner concerning association types, we have those of Saling and of Rosanoff and Rosanoff. Saling compared her results in children with those of Thumbe and Marbe and found that the most frequent response had a higher frequency with adults than with children. We have pointed out that this result was likely due to the peculiarities of the list of stimulus words used. Our own investigation emphatically fails to support the general validity of Saling's conclusion. Rosanoff and Rosanoff conclude that children give more individual associations than adults, but we have shown that their procedure was not capable of throwing any light on such a matter, but merely established that children's associations are different from those of adults. It does not tell us *how* they are different.

⁵⁸ Wells, F. L., 'Some Properties of the Free Association Time,' *Psychol. Rev.*, Vol. XVIII, 1911, p. 23.

CHAPTER III

PROCEDURE

I. Oral and Written Responses.

The review of previous work in the preceding chapter has shown that various procedures have been used by different investigators. All these procedures agree, however, with the possible exception of Ziehen's and Rusk's, in that they call upon the subject to respond with the very first word called up by the stimulus word. The stimulus word has nearly always been given orally and the response either written or spoken, written when groups of children were used and spoken when the children were taken individually. In most of the more extensive investigations of children's associations, the children have been school children, who were taken in classes; and in such cases, the responses have been written. Written responses were used by Meumann, Saling and Reinhold. Römer used written responses with his normal children and oral responses with his mentally retarded children with whom he compared them.

So far as can be observed from the results reached, it matters little whether one uses the oral or written method. The main difference seems to be that with the written method cases of no response are more frequent, though the number of such obtained with the oral method depends greatly upon details of the procedure, such as the time allowed for a response and the patience, manner, suggestion and urging of the experimenter. The written method commends itself in statistical investigations because of the great saving in time and the greater uniformity of conditions. If a child hesitates, there is no extra waiting and no suggestive questioning,—no tendency to give him the word a second or a third time. We have, consequently, used the written method in obtaining data for the present frequency tables.

Since, however, the Kent-Rosanoff adults' tables were obtained by the individual oral method, we have checked up our results by

compiling additional frequency tables for the first nine words from data obtained individually, by the oral method, from a thousand additional children. The results obtained by the oral method are given in full in our children's frequency tables, the frequencies obtained orally being distinguished from those obtained in writing by being in parentheses.

It does not require more than a cursory examination to see that in general the written and oral results run parallel. The same differences exist between adults and children whether we use the oral or the written data,—at least so far as the conclusions of the present monograph are concerned. One need not be surprised that in particular responses great discrepancies exist between the oral and written results. One must keep in mind the unreliability of the obtained frequencies. If one should compile another adult frequency table and compare it with that of Kent-Rosanoff, it would be very surprising if marked discrepancies were not found. Now it is very hard, without making certain questionable assumptions, to calculate the probable errors of the frequencies obtained in these tables. We have calculated, however, that less than 20 per cent of the discrepancies between our oral and written results can be reliably regarded as due to anything else than errors of sampling. On the whole, the oral and written results agree to a sufficient extent to indicate that the differences which are later pointed out to exist between children and adults are independent of details of the procedure,—that they represent real differences in mentality and not differences due to technique. To establish this proposition beyond dispute, however, we present in Chapter IX, detailed comparisons of the results obtained orally and in writing.

2. Instructions.

The instructions were essentially the same whether we used the oral or written method. In using the oral method, the instructions were given to the entire class. The children were then sent out one at a time into another room where, without further instructions, they were tested individually. It has been the experience of previous investigators that children need some illus-

tration of what is wanted in the test. As the illustrations given may have a strong suggesting influence, it is important that they should be given very carefully and be accurately recorded. We wrote out our instructions beforehand. They were given as follows, an eraser first being taken from the chalk tray and held up before the class:

"If I were to ask you for the very first word that comes into your minds when I hold up this eraser, some of you would probably say, 'chalk',—'blackboard',—'write',—or 'school',—while others might think of the color, 'red', or 'blue'; or of the material of which it is made, as, 'felt', or 'wood'. Still others of you might remember that just before recess or noon you worked arithmetic on the blackboard, and that your work had to be erased before you could be dismissed,—and so to you, the sight of an eraser might suggest the word 'play',—'home',—'dinner',—or 'recess'.

"Now let us take another word, and I'll give you a quarter of a minute, by this stop watch, to think before raising your hands. What would you think of first if I said 'clock'? (Fifteen seconds allowed) Ready."

Instantly hands go up, and the responses are called for. The variety of responses serves well to illustrate what is wanted, and inspires confidence in the pupils. It also gives the experimenter a chance to correct any who reply with a phrase in place of a single word, or who merely repeat the stimulus word.

After this, instructions were continued, exactly as follows, for the written responses, and with the obviously necessary changes for the oral:

"What you are to do now, is this. I will give you a large number of words, but instead of telling me what they make you think of, I want you to write on some blanks I have here, the *very first* word that comes to your minds when I give you a certain word,—such as 'clock' that we just talked about."

Blanks, already ruled, are then passed, and the instructions for writing are given:

1. Write just one word on each blank.
2. That one word must be the very first word you think of.
3. Never write the word I give, for you will not have time.

4. If you do not think of anything when I give a word, leave blank the line on which it should have been written.

5. If uncertain how to spell a word, spell it by sound.

Just before beginning the experiment the following questions were asked, to be answered in chorus.

(1) Are you going to write the word I pronounce? (No.)

(2) How many words are you going to write on each blank? (One.)

(3) If you should think of two or three different words, which one would you write? (The first.)

3. Choice of Stimulus Words.

As we desired to compare our results with those of Kent and Rosanoff, we naturally used the same stimulus words. The data obtained by Rosanoff and Rosanoff had already shown, however, that some of the words were too hard for children. This was shown by the large number of failures to respond to some of the words. We accordingly added twenty words which seemed more appropriate for children, so that we worked with a list of 120 stimulus words. The words added were the following:—fun, school, ice, dog, friend, orange, mouse, finger, circle, kiss, bird, money, laugh, garden, ghost, flag, milk, pencil, stork, and candy. Of the 100 Kent and Rosanoff words, there were only ten, however, that gave over 20 per cent of failures to respond. We decided, therefore, to reject only those ten words and to use the results of only ten of our twenty new words in their place. Our frequency table, consequently, consists of one hundred words, ninety of which are identical with those of Kent and Rosanoff. Our comparisons of adults and children will be limited of course to these ninety words. The remaining ten Kent-Rosanoff words we regard as too unfamiliar to children to allow of satisfactory results.

The words rejected and substituted were the following:

| Kent-Rosanoff Words Not Used | New Words Substituted |
|---------------------------------|--------------------------|
| 12. mutton | fun |
| 13. comfort | school |
| 19. command | candy |
| 32. citizen | stork |
| 45. trouble | garden |
| 56. justice | flag |
| 59. health | laugh |
| 61. memory | milk |
| 73. religion | ghost |
| 76. bitter | friend |

Of the ten Kent-Rosanoff words rejected, seven were found by Rosanoff and Rosanoff to give the largest number of failures of response, and the remaining three were also found by them to give failures comparatively often.¹ Since the words rejected by us were those which we found to give the largest number of failures of response, there is substantial agreement here between our results and those of Rosanoff and Rosanoff. In our children's frequency tables we have given the stimulus words the same numbers they have in the Kent-Rosanoff tables, and substituted our ten new words for theirs in the order indicated above.

4. Treatment of Failures of Response.

When it came to comparing children with adults, the presence, in the case of the children, of a large group of failures of response with most of the stimulus words created something of a problem. In the Kent-Rosanoff adult tables, there are no cases of no response. It seemed improper to compare frequencies based on 1,000 adult responses with frequencies based on, say 900, children's responses. What we did, was to take enough additional responses to total one thousand actual responses, not including failures to respond. In order to have the material for this, we used 200 additional children, and, after arranging their blanks in haphazard order, counted down as far as necessary to get a number of responses equal to the number of failures of response with the stimulus word in question. We proceeded similarly with the oral data, filling in failures of response from

¹ *Psych. Rev.*, Vol. XX, 1913, Table III, p. 47.

additional oral data. Our children's frequency tables are thus made up on the basis of one thousand actual responses.

These additional responses, substituted for the failures of response, we usually found to consist largely of the same words already obtained as responses, but they included always a number of new responses. That this filling-in procedure is not open to any material objection appears evident from the comparison we have made of the frequency tables obtained by the oral method, with which the number of failures of response was quite small, and those obtained by the written method. In general, then, it is probable that if the responses *had* been obtained from those children who did not respond, their responses would not differ strikingly from those of any other equal number of children.

The number of failures of response in one thousand children for each of the 100 stimulus words is given in the accompanying table. The data for the oral responses are given in italics.

TABLE SHOWING NUMBER OF FAILURES OF RESPONSE TO EACH STIMULUS WORD

| | | | | | | | | |
|---------------|------|-----|---------------|-----|-------------|-----|--------------|-----|
| 1. Table | (11) | 38 | 26. Wish | 122 | 51. Stem | 65 | 76. Friend | 174 |
| 2. Dark | (28) | 124 | 27. River | 18 | 52. Lamp | 22 | 77. Hammer | 34 |
| 3. Music | (16) | 22 | 28. White | 81 | 53. Dream | 108 | 78. Thirsty | 92 |
| 4. Sickness | (33) | 90 | 29. Beautiful | 39 | 54. Yellow | 49 | 79. City | 109 |
| 5. Man | (60) | 73 | 30. Window | 21 | 55. Bread | 38 | 80. Square | 184 |
| 6. Deep | (36) | 62 | 31. Rough | 127 | 56. Flag | 63 | 81. Butter | 79 |
| 7. Soft | (37) | 87 | 32. Stork | 82 | 57. Boy | 87 | 82. Doctor | 91 |
| 8. Eating | (11) | 61 | 33. Foot | 97 | 58. Light | 90 | 83. Loud | 187 |
| 9. Mountain | (13) | 46 | 34. Spider | 111 | 59. Laugh | 117 | 84. Thief | 77 |
| 10. House | | 60 | 35. Needle | 37 | 60. Bible | 70 | 85. Lion | 79 |
| 11. Black | | 102 | 36. Red | 115 | 61. Milk | 25 | 86. Joy | 107 |
| 12. Fun | | 65 | 37. Sleep | 78 | 62. Sheep | 83 | 87. Bed | 31 |
| 13. School | | 0 | 38. Anger | 109 | 63. Bath | 39 | 88. Heavy | 141 |
| 14. Hand | | 102 | 39. Carpet | 66 | 64. Cottage | 23 | 89. Tobacco | 43 |
| 15. Short | | 175 | 40. Girl | 120 | 65. Swift | 44 | 90. Baby | 92 |
| 16. Fruit | | 44 | 41. High | 98 | 66. Blue | 58 | 91. Moon | 97 |
| 17. Butterfly | | 112 | 42. Working | 118 | 67. Hungry | 103 | 92. Scissors | 29 |
| 18. Smooth | | 161 | 43. Sour | 107 | 68. Priest | 114 | 93. Quiet | 114 |
| 19. Candy | | 59 | 44. Earth | 97 | 69. Ocean | 38 | 94. Green | 66 |
| 20. Chair | | 89 | 45. Garden | 41 | 70. Head | 126 | 95. Salt | 172 |
| 21. Sweet | | 109 | 46. Soldier | 39 | 71. Stove | 24 | 96. Street | 59 |
| 22. Whistle | | 100 | 47. Cabbage | 57 | 72. Song | 89 | 97. ping | 117 |
| 23. Woman | | 123 | 48. Hard | 175 | 73. Ghost | 149 | 98. Cheese | 65 |
| 24. Cold | | 124 | 49. Eagle | 42 | 74. Whiskey | 83 | 99. Blossom | 59 |
| 25. Slow | | 172 | 50. Stomach | 95 | 75. Child | 87 | 100. Afraid | 92 |

5. The Selection of the Children.

The children used in this investigation were all from 9 to 12 years of age, inclusive, and in either the 4th or 5th grade. Moreover, no children of 12 in the 4th grade were included. The children were therefore normal children. The number of children of each age composing the one thousand children used in

the written work was as follows: 9 yrs., 236; 10 yrs., 327; 11 yrs., 293; 12 yrs., 144. The two hundred children whose responses were used to fill in cases of no response were distributed somewhat the same, as follows: 9 yrs., 40; 10 yrs., 71; 11 yrs., 56; 12 yrs., 33.

Of course, it would be desirable to have a frequency table for each different age, or for as many different ages as possible. We believe it unlikely, in view of the enormous labor of compiling such tables, that any individual would undertake to compile several of them. It was thought that the four ages in question might be fairly satisfactorily grouped together. We have, however, tabulated the results for the different ages separately. Data as regards the most frequently given responses are given in Chapter V. As will be seen, the agreement for the four ages is marked. It extends throughout the whole of the frequency tables. Compared with the differences between children and adults, the differences between 9 and 12 year old children are very slight.

There were several reasons which influenced us to use the ages of 9 to 12. It seemed to us that children of 8 or under were really too young to carry out the directions that go with the free association test. We were confirmed in this opinion by the study of Otis, which appeared while we were carrying on our work.² On the other hand, the results of Meumann and, to some extent, perhaps, those of Rosanoff and Rosanoff, suggested that, beginning at the age of 12 to 13, the associative tendencies of children begin rapidly to approach those of adults. Moreover, we had to consider that children in grades lower than the fourth have hardly sufficient control over the process of writing to be able to write their responses, and 9 years is the youngest age occurring with any considerable frequency in the fourth grade.

The children were all Minneapolis school children, and the tests were all given in the fall of 1914. Ten different schools were included, scattered in various sections of the city. In each school, four classes were used, the B 4th and A 4th, and the

² See our account of 'Previous Work', Chapter II, p. 19-20.

B 5th and A 5th. The question might now arise whether results obtained in one city are as truly representative of the population in general as are the Kent-Rosanoff results obtained in various places in the East. We believe that they are fully as representative, because nearly all children of the ages we used are in school and therefore families of all classes and occupation are represented in about the right proportion. However, it may be well to keep in mind that these children are all *city* children and to be on the lookout for local influences. To the word river, we obtained the response Mississippi (which flows through Minneapolis) seventeen times and the name of no other river more than once. The Kent-Rosanoff results show just as much local color however, since to the word river they obtained the response Hudson thirty-three times, East, four, Mississippi, eight, and no other river more than once.

The children were of nearly all the nationalities commonly represented in the United States. They were asked to write the nationality of their parents upon the back of their blanks. The data obtained are shown in the following table:

NATIONALITIES

| | |
|----------------------|----------------------------|
| 123 American | 12 German-Swedish |
| 1 Armenian | 1 Greek |
| 6 Austrian | 67 Irish |
| 1 Austrian-American | 17 Irish-American |
| 1 Austrian-Servian | 2 Irish-Bohemian |
| 24 Bohemian | 1 Irish-Canadian |
| 1 Bohemian-American | 1 Irish-Chinese |
| 1 Bohemian-Norwegian | 13 Irish-English |
| 3 Canadian-American | 1 Irish-German-English |
| 1 Danish | 1 Irish-Norwegian |
| 2 Danish-German | 1 Irish-Polish |
| 3 Danish-Norwegian | 3 Irish-Swiss |
| 1 Dutch | 8 Italian |
| 3 Dutch-American | 1 Italian-English |
| 3 Dutch-Swedish | 3 Jewish |
| 33 English | 68 Norwegian |
| 7 English-American | 9 Norwegian-American |
| 1 English-Bohemian | 3 Norwegian-English |
| 1 English-Swedish | ..1 Norwegian-Scotch-Irish |
| 1 English-Swiss | 23 Norwegian-Swedish |
| 5 Finn | 46 Polish |
| 30 French | 1 Polish-Russian |
| 4 French-American | 3 Polish-Slavonian |
| 1 French-Bohemian | 34 Russian |
| 1 French-Dutch | 10 Scotch |

| | |
|------------------------|-------------------------|
| 15 French-German | 10 Scotch-American |
| 11 French-Irish | 6 Scotch-English |
| 3 French-Norwegian | 1 Scotch-German |
| 5 French-Scotch | 17 Scotch-Irish |
| 1 French-Scotch-Irish | 1 Scotch-Norwegian |
| 3 French-Swedish | 2 Scotch-Swedish |
| 90 German | 3 Scotch-Welsh |
| 20 German-American | 19 Slavonian |
| 4 German-Bohemian | 114 Swedish |
| 1 German-Canadian | 11 Swedish-American |
| 1 German-Dutch | 1 Swedish-Danish |
| 1 German-Icelander | 1 Swedish-French-German |
| 17 German-Irish | 1 Swedish-Irish |
| 11 German-Norwegian | 1 Swiss-American |
| 14 German-Polish | 8 Syrian |
| 1 German-Roumanian | 1 Welsh-American |
| 1 German-Russian | 1 Welsh-German |
| 3 German-Scotch | 1 Welsh-Swedish |
| 11 German-Scotch-Irish | |

The thousand children given the oral tests were selected from the same ages and grades as those used in the written work, but from ten other schools. No record was kept of their nationality.

6. Classification and Comparison.

The question we have asked ourselves is, to what extent do children give the same responses as adults. The most complete answer to this question consists in the complete adults' and children's frequency tables. So far as possible, however, it is desirable to summarize the points of agreement and disagreement. To do this, it is necessary to study the tables from various points of view and to classify the results in various ways. The data of the frequency tables thus worked over are presented in Chapters VI to VIII.

In Chapter VI, we have attempted a somewhat elaborate comparison of children's and adults' associations according to association type. Chapter VII gives a comparison of the three most frequent responses of children and adults. In Chapter VIII, the children are compared with adults as regards the total number of responses and the number of individual responses.

The children's association frequency tables, which constitute our fundamental data, are given in Chapter IV, followed in Chapter V, by a study of the variation in the preferred reactions within the ages included in our study. In Chapter IX, we show that all the differences which we find to exist between children and adults hold whether we use the written or oral responses.

CHAPTER IV

CHILDREN'S FREQUENCY TABLES

The following tables show the frequency with which was given each of the responses to each of our 100 stimulus words. In the case of the first 9 stimulus words, for which responses were obtained orally as well as in writing, the frequencies for oral responses are given in parentheses. For all the other stimulus words, written responses alone were obtained. The total number of responses given for each stimulus word is one thousand, except in the case of the first 9 words, where it is two thousand, i.e., one thousand written, and one thousand oral responses.

For convenience in reference, we give a list of the stimulus words in alphabetical order. The order in which the list was read to the children is indicated by the numbers before the words, which correspond with the Kent-Rosanoff numbers, except in the 10 cases where we have substituted a new word in place of the Kent-Rosanoff word. Under the column headed 'Page' is given for each stimulus word the page on which may be found its frequency table.

STIMULUS WORDS

| | PAGE | PAGE | PAGE | PAGE | |
|-----------------|------|----------------|------|----------------|----|
| 100. Afraid ... | 71 | 49. Eagle ... | 54 | 85. Lion ... | 66 |
| 38. Anger ... | 50 | 44. Earth ... | 52 | 72. Long ... | 61 |
| | | 8. Eating ... | 38 | 83. Loud ... | 65 |
| 90. Baby ... | 67 | 56. Flag ... | 56 | 5. Man ... | 36 |
| 63. Bath ... | 58 | 33. Foot ... | 48 | 61. Milk ... | 58 |
| 29. Beautiful | 47 | 76. Friend ... | 63 | 91. Moon ... | 68 |
| 87. Bed ... | 66 | 16. Fruit ... | 42 | 9. Mountain | 39 |
| 60. Bible ... | 58 | 12. Fun ... | 41 | 3. Music ... | 35 |
| 11. Black ... | 40 | 45. Garden ... | 52 | 35. Needle ... | 49 |
| 99. Blossom ... | 70 | 73. Ghost ... | 62 | 69. Ocean ... | 60 |
| 66. Blue ... | 59 | 40. Girl ... | 50 | 68. Priest ... | 60 |
| 57. Boy ... | 56 | 94. Green ... | 68 | 67. Hammer | 63 |
| 55. Bread ... | 56 | 77. Hand ... | 41 | 14. Hand ... | 41 |
| 81. Butter ... | 65 | 48. Hard ... | 53 | 40. Head ... | 61 |
| 17. Butterfly | 42 | 70. Head ... | 61 | 36. Heavy ... | 67 |
| 47. Cabbage ... | 53 | 88. High ... | 51 | 41. House ... | 40 |
| 19. Candy ... | 43 | 10. House ... | 40 | 67. Hungry ... | 60 |
| 39. Carpet ... | 50 | 86. Joy ... | 66 | 97. King ... | 70 |
| 20. Chair ... | 43 | 97. King ... | 70 | 52. Lamp ... | 55 |
| 98. Cheese ... | 70 | 52. Lamp ... | 55 | 59. Laugh ... | 57 |
| 75. Child ... | 62 | 59. Laugh ... | 57 | 58. Light ... | 57 |
| 79. City ... | 64 | 86. Joy ... | 66 | | |
| 24. Cold ... | 45 | | | | |
| 64. Cottage ... | 59 | | | | |
| 2. Dark ... | 34 | | | | |
| 6. Deep ... | 37 | | | | |
| 82. Doctor ... | 65 | | | | |
| 53. Dream ... | 55 | | | | |
| 18. Smooth ... | 43 | | | | |
| 7. Soft ... | 38 | | | | |
| 46. Soldier ... | 53 | | | | |
| 43. Sour ... | 52 | | | | |
| 34. Snider ... | 48 | | | | |
| 80. Square ... | 64 | | | | |
| 51. Stem ... | 54 | | | | |
| 50. Stomach ... | 54 | | | | |
| 32. Stork ... | 48 | | | | |
| 71. Stove ... | 61 | | | | |
| 96. Street ... | 69 | | | | |
| 21. Sweet ... | 44 | | | | |
| 65. Swift ... | 59 | | | | |
| 1. Table ... | 34 | | | | |
| 84. Thief ... | 65 | | | | |
| 78. Thirsty ... | 64 | | | | |
| 89. Tobacco ... | 67 | | | | |
| 74. Whiskey ... | 62 | | | | |
| 22. Whistle ... | 44 | | | | |
| 28. White ... | 46 | | | | |
| 30. Window ... | 47 | | | | |
| 26. Wish ... | 46 | | | | |
| 23. Woman ... | 44 | | | | |
| 42. Working ... | 51 | | | | |
| 54. Yellow ... | 55 | | | | |

19

THE FREQUENCY TABLES

1. TABLE

| | | | |
|--------------------|---------------------|----------------------|---------------------|
| 1 (2) able | 1 (0) doily | 0 (6) lunch | 0 (1) sixes |
| 0 (2) arithmetical | 2 (0) draw | 0 (1) magazine | 0 (1) sofa-pillow |
| 1 (0) ate | 0 (2) drawer | 1 (0) map | 0 (1) something |
| 1 (0) banana | 358 (331) eat | 2 (0) marble | 0 (2) spelling |
| 1 (0) bicycle | 0 (1) eatables | 1 (0) massive | 12 (4) spoon |
| 2 (1) big | 28 (33) eating | 2 (0) meals | 4 (0) spoons |
| 0 (2) board | 4 (3) eats | 10 (0) meat | 1 (1) stable |
| 5 (0) boards | 0 (1) examples | 1 (0) men | 0 (1) stand |
| 5 (8) book | | 0 (1) multiply | 0 (1) store |
| 5 (12) books | 3 (0) feet | 0 (1) multiplication | 0 (1) study |
| 0 (1) boys | 0 (1) floor | 0 (1) my | 0 (1) studying |
| 11 (3) bread | 0 (2) flowers | 0 (1) napkins | 1 (0) stuff |
| 8 (2) breakfast | 17 (15) food | 0 (1) number | 2 (1) sugar |
| 2 (0) broken | 1 (0) foot | 0 (1) off | 0 (1) sugar-bowl |
| 1 (0) butter | 2 (2) fork | 2 (0) oranges | 7 (4) supper |
| | 4 (2) forks | | |
| 1 (0) cable | 1 (0) frame | 0 (1) orange | 10 (17) table-cloth |
| 1 (0) cake | 0 (1) furniture | 2 (0) oranges | 1 (0) tape |
| 1 (0) candy | | | 0 (1) teacher |
| 1 (0) cards | 0 (1) got | 1 (0) paper | 0 (1) the |
| 1 (0) carpet | | 0 (3) pen | 2 (0) things |
| 0 (1) center-table | 0 (1) hat | 1 (7) pencil | 0 (2) time-table |
| 16 (30) chair | 2 (0) high | 0 (1) pencils | 1 (3) top |
| 8 (18) chairs | 0 (13) home | 1 (0) people | 1 (0) tumblers |
| 0 (1) children | 4 (12) house | 1 (0) pie | 2 (0) turkey |
| 0 (1) class | | 9 (7) plate | 1 (0) twelves |
| 1 (0) clock | 0 (1) ice-cream | 12 (7) plates | 0 (1) twos |
| 43 (39) cloth | 2 (0) ink | 1 (0) perch | 1 (0) upon |
| 3 (0) coffee | 1 (0) is | 1 (0) potatoes | 0 (1) use |
| 0 (1) cold | | 0 (3) read | 9 (1) using |
| 1 (0) come | 0 (1) kitchen-table | 0 (3) reading | 0 (1) varnish |
| 0 (1) cook | 4 (3) knife | 0 (2) room | 1 (0) vegetable |
| 1 (0) cooking | 10 (2) knives | 6 (2) round | 0 (1) vegetables |
| 1 (0) cover | | | |
| 7 (5) cup | 1 (0) lady | 2 (0) salt | 1 (0) whittle |
| 4 (2) cups | 2 (1) lamp | 1 (0) sat | 21 (26) wood |
| 4 (6) desk | 1 (0) lamps | 0 (1) saucers | 9 (0) wooden |
| 2 (2) dining | 4 (0) large | 0 (1) school | 0 (4) work |
| 0 (2) dining-room | 8 (4) leg | 1 (0) see | 0 (1) working |
| | 70 (56) legs | 1 (0) set | 5 (44) write |
| 22 (28) dinner | 0 (1) light | 2 (2) set | 1 (0) written |
| 33 (11) dish | 0 (1) lighting | 6 (15) sit | |
| 126 (115) dishes | 0 (1) long | | |

2. DARK

| | | | |
|------------------|------------------|----------------------|-------------------|
| 49 (48) afraid | 1 (2) dress | 8 (3) lantern | 1 (0) sad |
| 1 (3) alone | 1 (0) dungeon | 1 (0) lark | 18 (18) scared |
| 0 (1) ark | 1 (0) dusk | 7 (0) late | 0 (1) scary |
| 0 (3) asleep | | 38 (98) light | 0 (2) school |
| 0 (2) awful | 1 (0) eat | 2 (0) lights | 47 (21) see |
| | 1 (1) eraser | 0 (1) lonely | 0 (1) searchlight |
| 1 (0) bark | 10 (5) evening | 0 (1) look | 0 (3) shades |
| 0 (1) bat | | 1 (1) lost | 6 (0) shadow |
| 28 (16) bed | 0 (1) face | | 6 (0) shady |
| 1 (1) bed time | 1 (0) fade | 7 (0) man | 0 (1) shoe |
| 0 (2) bird | 0 (2) fear | 1 (0) marble | 0 (1) shoes |
| 80 (100) black | 0 (1) fearful | 2 (0) mark | 0 (1) sit |
| 1 (4) blackboard | 3 (0) fine | 3 (1) match | 6 (0) sky |
| 4 (3) blue | 0 (1) fire | 1 (0) mean | 6 (28) sleep |
| 1 (0) board | 0 (1) flowers | 1 (0) men | 0 (3) sleeping |
| 4 (1) book | 0 (1) forest | 1 (3) midnight | 0 (1) so |
| 3 (3) brown | 1 (0) fright | 1 (0) mice | 0 (1) space |
| 6 (0) burglar | 0 (4) frightened | 10 (9) moon | 0 (1) spark |
| 1 (0) butter | | 0 (1) mouse | 3 (0) star |
| | 3 (0) gaslight | 1 (0) moving-picture | 1 (0) stark |
| 0 (2) camp | 0 (1) geography | 4 (0) nice | 4 (0) starlight |
| 1 (2) candle | 0 (4) ghost | 421 (410) night | 2 (12) stars |
| 1 (0) can't | 0 (5) ghosts | 0 (2) night-time | 2 (0) startled |
| 0 (1) cave | 5 (5) gloomy | 5 (10) no light | 0 (1) steps |
| 0 (3) cellar | 0 (1) go | 0 (2) noises | 2 (2) storm |
| 1 (0) chair | 0 (3) goods | 1 (0) not | 3 (0) stumble |
| 2 (1) clock | 1 (1) green | | 0 (1) sugar |

| | | | | | | | |
|---|----------------|----|------------|----|----------------|---|--------------|
| 1 | (1) cloth | 0 | (1) grope | 6 | (10) not light | 0 | (1) supper |
| 0 | (1) clothes | 0 | (1) group | | | | |
| 5 | (2) clouds | | | 4 | (0) out | 1 | (1) table |
| 3 | (0) cloudy | 4 | (2) hair | 1 | (0) outside | 0 | (2) theirs |
| 4 | (2) cold | 0 | (1) hall | | | 0 | (1) too |
| 7 | (17) color | 1 | (0) hark | 2 | (0) pale | 1 | (0) tree |
| 0 | (2) colors | 0 | (1) hate | 1 | (0) paper | 0 | (1) trees |
| 0 | (1) complexion | 1 | (0) have | 0 | (1) park | 4 | (0) twilight |
| 4 | (0) corner | 0 | (1) here | 0 | (1) people | | |
| 1 | (0) cough | 0 | (1) hide | 0 | (1) pitch | 0 | (1) unlight |
| 1 | (1) curtain | 1 | (2) home | 0 | (1) pleasure | 0 | (1) upset |
| 1 | (1) curtains | 8 | (8) house | 1 | (0) purple | | |
| | | | | | | 0 | (3) very |
| 3 | (0) dare | 1 | (0) I | 1 | (0) rain | | |
| 0 | (1) darkness | 1 | (0) inside | 0 | (1) rainy | 3 | (0) walk |
| 1 | (0) darkroom | 3 | (0) is | 2 | (0) red | 1 | (0) was |
| 1 | (2) day | 0 | (4) it | 3 | (0) robber | 0 | (1) water |
| 0 | (1) death | | | 0 | (0) robbery | 0 | (1) weather |
| 0 | (1) den | 1 | (0) lady | 29 | (16) room | 0 | (3) white |
| 4 | (0) die | 15 | (10) lamp | 0 | (1) rooms | 0 | (2) wood |
| 1 | (0) dismal | 1 | (4) lamps | | | 4 | (3) woods |

3. MUSIC

| | | | | | | | |
|----|---------------|----|----------------|-----|----------------|-----|---------------|
| 1 | (0) angels | 0 | (2) hard | 29 | (12) nice | 0 | (33) school |
| | | 0 | (1) hardest | 1 | (0) night | 1 | (0) serenade |
| 6 | (0) band | 0 | (1) harmony | 25 | (5) noise | 0 | (1) sick |
| 1 | (0) beat | 3 | (0) harp | 1 | (2) note | 153 | (236) sing |
| 0 | (4) beating | 0 | (1) hate | 10 | (66) notes | 23 | (54) singing |
| 0 | (2) beats | 3 | (1) hear | | | 1 | (0) soft |
| 11 | (5) beautiful | 1 | (0) bearing | 0 | (2) orchestra | 0 | (1) soldier |
| 1 | (0) beauty | 1 | (1) here | 19 | (10) organ | 50 | (37) song |
| 5 | (48) book | 1 | (0) high | | | 1 | (1) song-book |
| 0 | (16) books | 0 | (1) history | 0 | (1) paid | 16 | (7) songs |
| 1 | (0) box | 0 | (1) home | 0 | (2) paper | 35 | (0) sound |
| | | 0 | (1) Home | 0 | (4) pencil | 1 | (5) sounds |
| | | | Sweet Home | 0 | (1) person | 0 | (1) spelling |
| 1 | (0) choir | 1 | (0) hook | 0 | (1) phonograph | 0 | (1) staff |
| 0 | (1) clarinet | | | 198 | (166) piano | 0 | (6) study |
| 3 | (0) concert | | | 1 | (3) piece | 79 | (19) sweet |
| | | 1 | (2) I | 1 | (0) pipe | 1 | (0) swell |
| 7 | (1) dance | 10 | (2) instrument | 0 | (2) pitch-pipe | | |
| 0 | (2) dancing | | | 81 | (39) play | 0 | (1) take |
| 0 | (1) dinner | 5 | (1) joy | 2 | (0) played | 0 | (1) tap |
| 1 | (3) do | | | 1 | (0) player | 0 | (1) teach |
| 0 | (1) drawing | 0 | (1) keys | 1 | (10) playing | 2 | (10) teacher |
| 1 | (0) drum | | | 1 | (0) plays | 1 | (0) ticket |
| | | 0 | (11) learn | 1 | (0) pleasure | 5 | (4) time |
| 0 | (1) easy | 1 | (2) learning | 0 | (1) pointing | 2 | (0) tone |
| 1 | (0) enjoy | 17 | (12) lesson | 0 | (1) poor | 0 | (1) train |
| 0 | (1) eraser | 4 | (9) lessons | 1 | (1) practice | 4 | (0) tune |
| 1 | (0) excellent | 17 | (1) like | 2 | (4) practice | | |
| | | 0 | (1) line | 48 | (22) pretty | | |
| 4 | (0) fiddle | 6 | (3) listen | 0 | (1) public | 1 | (0) victrola |
| 3 | (2) fine | 6 | (2) loud | | | 25 | (12) violin |
| 0 | (1) finger | 1 | (1) love | 0 | (2) read | 1 | (10) voice |
| 0 | (3) fun | 0 | (1) lovely | 0 | (5) reading | | |
| | | | | 0 | (2) record | 0 | (4) we |
| 2 | (1) girl | 1 | (1) melody | 0 | (1) rhythm | 0 | (1) whine |
| 0 | (1) glad | 1 | (0) melt | 0 | (1) roll | 1 | (0) whistle |
| 33 | (15) good | 0 | (1) merry | 1 | (0) room | 0 | (2) words |
| 1 | (0) grand | 1 | (0) much | 1 | (0) roay | 1 | (2) work |
| 1 | (0) great | 0 | (1) music-book | 0 | (0) scale | 0 | (3) write |
| | | 1 | (1) musician | 1 | (0) sang | 0 | (3) writing |
| 2 | (2) happy | | | 0 | (2) scale | | |

4. SICKNESS

| | | | | | | | |
|----|---------------|---|--------------|---|--------------|----|-----------------|
| 1 | (0) able | 1 | (0) duty | 1 | (0) kink | 0 | (1) serious |
| 0 | (1) absent | 4 | (8) dying | 0 | (1) kitchen | 0 | (1) sets |
| 5 | (1) ache | | | | | 1 | (0) she |
| 1 | (0) all right | 4 | (0) earache | 1 | (4) lady | 58 | (65) sick |
| 2 | (0) alone | 0 | (2) eating | 3 | (2) lay | 1 | (1) sickly |
| 1 | (0) are | | | 0 | (1) like | 0 | (1) sipped |
| 3 | (0) awful | 2 | (1) faint | 1 | (0) lonesome | 1 | (2) sleep |
| | | 1 | (0) families | | | 0 | (1) small-pox |
| 4 | (0) baby | 3 | (0) family | 6 | (1) man | 1 | (0) smother |
| 22 | (17) bad | 0 | (1) famine | 0 | (1) me | 0 | (3) sore throat |

| | | | | | | | | | | | |
|-----|-------|-------------|----|------|----------|----|------|-------------|----|------|--------------|
| 1 | (0) | banana | 1 | (0) | fear | 27 | (40) | measles | 0 | (6) | sorrow |
| 105 | (131) | bed | 0 | (1) | fearful | 35 | (40) | medicine | 1 | (0) | sorry |
| 1 | (0) | bedside | 0 | (1) | feeble | 1 | (0) | miserable | 1 | (0) | spoon |
| 1 | (0) | bicycle | 3 | (1) | feel | 1 | (0) | money | 1 | (0) | stomach- |
| 1 | (0) | bleeding | 0 | (5) | feel bad | 4 | (0) | mother | 4 | (0) | trouble |
| 1 | (0) | blind | 5 | (0) | feeling | 1 | (0) | move | 1 | (1) | suffer |
| 5 | (2) | boy | 1 | (0) | feet | 9 | (3) | mumps | 4 | (0) | suffering |
| 2 | (0) | boys | 1 | (0) | felt | 2 | (0) | myself | 0 | (1) | summer- |
| 0 | (1) | brother | 50 | (36) | fever | 1 | (0) | night | 1 | (0) | time |
| 1 | (0) | bum | 1 | (0) | flowers | 1 | (0) | not healthy | 4 | (2) | terrible |
| 0 | (1) | careless | 1 | (0) | friend | 1 | (0) | not well | 1 | (0) | throat |
| 1 | (0) | catch | 2 | (1) | germs | 7 | (3) | nurse | 6 | (1) | tired |
| 0 | (1) | chicken-pox | 2 | (7) | girl | 1 | (0) | nuts | 1 | (0) | too bad |
| 0 | (3) | child | 0 | (1) | good | 14 | (9) | pain | 3 | (4) | trouble |
| 4 | (0) | children | 3 | (0) | grippe | 0 | (1) | paint | 0 | (1) | tuberculosis |
| 26 | (18) | cold | 0 | (1) | hard | 0 | (2) | pale | 0 | (3) | typhoid- |
| 1 | (0) | consump- | 0 | (1) | has | 0 | (1) | pall | 1 | (1) | fever |
| 7 | (1) | cough | 1 | (0) | have | 3 | (0) | patient | 1 | (1) | unhappy |
| 0 | (1) | croup | 0 | (1) | he | 11 | (7) | people | 0 | (1) | unhealthy |
| 3 | (1) | crying | 3 | (0) | head | 1 | (4) | person | 0 | (4) | unhealthy |
| 3 | (2) | cure | 26 | (12) | headache | 1 | (0) | pills | 2 | (2) | very |
| 0 | (1) | dangerous | 6 | (11) | headway | 2 | (0) | play | 1 | (0) | |
| 1 | (0) | dark | 1 | (0) | healthy | 1 | (0) | pneumonia | 0 | (1) | wan |
| 9 | (7) | dead | 1 | (0) | hiccough | 4 | (2) | poor | 1 | (1) | was |
| 8 | (44) | death | 0 | (13) | home | 0 | (1) | poorly | 2 | (0) | water |
| 21 | (14) | die | 0 | (2) | hope | 0 | (1) | quarantine | 34 | (8) | we |
| 5 | (0) | died | 10 | (22) | hospital | 0 | (1) | quiet | 20 | (26) | weak |
| 1 | (0) | diet | 0 | (1) | hot | 0 | (1) | quiet | 2 | (0) | weather |
| 13 | (19) | diphtheria | 3 | (3) | house | 4 | (5) | sad | 2 | (0) | well |
| 0 | (1) | disagree- | 6 | (6) | hurt | 0 | (4) | sadness | 8 | (0) | white |
| 24 | (44) | disease | 1 | (4) | I | 0 | (1) | scared | 0 | (1) | whooping- |
| 116 | (116) | doctor | 95 | (94) | ill | 42 | (36) | scarlet- | 0 | (2) | cough |
| 0 | (1) | doctors | 5 | (6) | illness | 2 | (4) | fever | 1 | (0) | woman |
| 1 | (0) | dream | 1 | (0) | in | 1 | (0) | school- | 3 | (2) | you |
| 0 | (4) | dreary | 0 | (1) | itches | 1 | (0) | school- | 3 | (2) | you |
| 2 | (0) | drug | 1 | (0) | kill | 1 | (0) | ma'am | 1 | (0) | |
| 0 | (1) | dull | 1 | (0) | kill | 1 | (0) | see | 1 | (0) | |

5. MAN

| | | | | | | | | | | | |
|----|------|-------------|----|------|-----------|----|------|-----------|----|------|----------|
| 3 | (3) | adult | 3 | (2) | fellow | 1 | (0) | loud | 0 | (1) | size |
| 0 | (1) | age | 0 | (1) | flesh | 0 | (1) | lumber | 0 | (1) | skillful |
| 1 | (0) | agent | 0 | (1) | food | 1 | (0) | mad | 1 | (0) | skin |
| 1 | (1) | all | 2 | (0) | foot | 6 | (2) | male | 0 | (2) | slid |
| 3 | (0) | American | 1 | (0) | football | 8 | (4) | male | 0 | (2) | small |
| 0 | (1) | an | 0 | (2) | form | 4 | (0) | mamma | 5 | (0) | smoke |
| 1 | (0) | animal | 3 | (2) | manhood | 3 | (2) | manhood | 0 | (2) | smokes |
| 0 | (1) | appearance | 0 | (1) | garden | 0 | (5) | married | 4 | (0) | smoking |
| 1 | (0) | arm | 4 | (0) | gentle | 3 | (0) | marry | 1 | (0) | snowman |
| 0 | (1) | arms | 4 | (10) | gentleman | 16 | (11) | mean | 0 | (1) | soldier |
| 0 | (1) | auto. | 0 | (2) | girl | 19 | (19) | men | 0 | (1) | son |
| 1 | (4) | bad | 0 | (2) | goes | 0 | (1) | miner | 0 | (1) | spade |
| 0 | (1) | bald | 18 | (7) | going | 0 | (1) | mister | 0 | (1) | steps |
| 1 | (0) | bather | 0 | (2) | good | 0 | (1) | Mr. Smith | 5 | (1) | store |
| 0 | (2) | beg | 0 | (2) | great | 5 | (0) | money | 1 | (0) | stout |
| 0 | (1) | beggar | 5 | (3) | grow | 0 | (1) | muscles | 1 | (2) | street |
| 1 | (1) | being | 4 | (10) | grown-up | 1 | (0) | my | 1 | (0) | strength |
| 0 | (1) | best | 5 | (4) | hair | 3 | (5) | necktie | 21 | (23) | strong |
| 57 | (26) | big | 5 | (4) | hair | 0 | (1) | negro | 0 | (2) | suit |
| 3 | (3) | body | 1 | (3) | hand | 1 | (2) | nice | 2 | (5) | talk |
| 0 | (1) | book-binder | 3 | (0) | hands | 32 | (42) | tan | 1 | (0) | tall |
| 55 | (29) | boy | 1 | (0) | happy | 3 | (4) | office | 1 | (0) | tan |
| 1 | (1) | boys | 0 | (1) | hard | 4 | (9) | old | 0 | (3) | teacher |
| 0 | (3) | brave | 2 | (1) | hard work | 1 | (0) | one | 0 | (2) | the |
| 0 | (1) | bravery | 68 | (82) | hat | 1 | (0) | out | 1 | (0) | there |
| 2 | (1) | burglar | 7 | (2) | he | 0 | (1) | overalls | 1 | (0) | thirty |
| 8 | (9) | business | 9 | (4) | head | 2 | (0) | overcoat | 5 | (0) | tie |
| 0 | (1) | can | 0 | (1) | height | 3 | (0) | pa | 1 | (0) | took |
| 7 | (0) | cane | 3 | (0) | help | 1 | (0) | pan | 5 | (4) | trousers |
| 5 | (2) | cap | 1 | (2) | helper | 3 | (6) | pants | 0 | (1) | true |
| 0 | (2) | carpenter | 0 | (1) | here | 7 | (0) | papa | 0 | (1) | ugly |
| 1 | (0) | chap | 1 | (0) | hidden | 0 | (1) | parents | 2 | (0) | uncle |
| 0 | (1) | child | 2 | (0) | high | 0 | (1) | pay | 1 | (0) | up |

7. SOFT

| | | | | | | | | | | | |
|----|------|-------------|----|------|-----------|-----|-------|------------|----|------|----------|
| 6 | (5) | apple | 1 | (2) | feathery | 3 | (1) | linen | 3 | (2) | seat |
| 5 | (3) | apples | 3 | (2) | felt | 8 | (0) | little | 3 | (0) | shirt |
| | | | 0 | (1) | filling | 4 | (0) | loft | 6 | (2) | silk |
| 5 | (6) | ball | 3 | (1) | fine | 1 | (0) | looked | 2 | (6) | sing |
| 1 | (1) | banana | 1 | (0) | fingers | 1 | (0) | looking | 0 | (2) | singing |
| 0 | (1) | bananas | 0 | (1) | floor | 0 | (4) | loud | 2 | (6) | sink |
| 1 | (0) | bathe | 0 | (2) | flour | 0 | (1) | lounge | 4 | (4) | sit |
| 0 | (1) | batting | 5 | (10) | fluffy | 4 | (17) | low | 3 | (1) | skin |
| 1 | (0) | be | 1 | (0) | fly | | | | 3 | (5) | sleep |
| 1 | (0) | beat | 1 | (0) | fresh | 0 | (2) | marsh | 0 | (2) | sleeping |
| 57 | (62) | bed | 0 | (1) | fruit | 0 | (1) | mattress | 0 | (1) | slippers |
| 0 | (1) | bench | 20 | (12) | fur | 4 | (1) | meat | 1 | (0) | slippery |
| 0 | (1) | big | 1 | (0) | furs | 2 | (0) | mellow | 22 | (19) | smooth |
| 1 | (0) | billow | | | | 1 | (1) | melt | 20 | (6) | snow |
| 1 | (0) | bind | 1 | (0) | girl | 0 | (2) | moist | 0 | (1) | soap |
| 10 | (1) | blanket | 2 | (3) | glossy | 4 | (7) | moss | 7 | (3) | sofa |
| 1 | (0) | blow | 7 | (5) | good | 1 | (0) | mosses | 1 | (0) | softer |
| 1 | (0) | book | 0 | (1) | goods | 21 | (13) | mud | 1 | (0) | softly |
| 45 | (50) | bread | 5 | (8) | grass | 7 | (3) | muddy | 3 | (3) | softness |
| 6 | (2) | butter | 1 | (0) | grease | 4 | (3) | mush | 1 | (0) | sofy |
| | | | 0 | (2) | green | 19 | (12) | mushy | 0 | (1) | soggy |
| 9 | (8) | cake | 9 | (0) | ground | 0 | (12) | music | 1 | (0) | soup |
| 5 | (4) | candy | 0 | (5) | grounds | 0 | (3) | mussy | 2 | (1) | sow |
| 1 | (0) | cap | 0 | (1) | gum | | | | 5 | (0) | sponge |
| 4 | (0) | carpet | | | | 3 | (0) | nest | 1 | (10) | spongy |
| 7 | (5) | cat | 0 | (5) | hair | 46 | (32) | nice | 0 | (1) | spot |
| 1 | (8) | catch | 1 | (0) | hand | 0 | (1) | noise | 0 | (1) | spring |
| 3 | (8) | chair | 6 | (0) | hands | 0 | (1) | not | 0 | (1) | squash |
| 0 | (1) | chalk | 0 | (1) | handker- | | | | 0 | (1) | squeeze |
| 0 | (1) | chicken | | | chief | 1 | (0) | ocean | 0 | (3) | sticky |
| 1 | (0) | chunk | 27 | (63) | hard | 0 | (2) | oft | 1 | (0) | strong |
| 2 | (0) | clay | 0 | (1) | hat | 0 | (1) | often | 0 | (1) | sugar |
| 1 | (0) | clear | 4 | (1) | hay | 1 | (0) | oily | 1 | (0) | sunk |
| 13 | (22) | cloth | 0 | (1) | hazy | 1 | (0) | on toe | 3 | (0) | swamp |
| 0 | (3) | clothes | 1 | (0) | he | 0 | (2) | orange | 1 | (9) | sweet |
| 0 | (1) | coal | 0 | (1) | head | | | | 1 | (0) | swing |
| 3 | (0) | coat | 1 | (0) | hear | 0 | (1) | pancake | | | |
| 1 | (0) | coats | 1 | (0) | heat | 9 | (2) | paper | 1 | (0) | taste |
| 1 | (0) | cold | 1 | (1) | heavy | 0 | (1) | pencil | 3 | (3) | tender |
| 4 | (12) | comfortable | 0 | (1) | high | 0 | (1) | person | 0 | (1) | that |
| 0 | (1) | cooky | 0 | (1) | home | 3 | (1) | pie | 7 | (1) | thin |
| 57 | (65) | cotton | 0 | (1) | house | 1 | (0) | pieces | 1 | (0) | thing |
| 6 | (1) | couch | | | | 138 | (122) | pillow | 0 | (1) | tip-toe |
| 2 | (0) | cover | 1 | (0) | ice | 0 | (1) | pincushion | 0 | (2) | too |
| 11 | (4) | cozy | 9 | (2) | ice-cream | 0 | (1) | play | 0 | (1) | touch |
| 0 | (1) | cream | 2 | (0) | is | 1 | (1) | potato | 1 | (0) | touchy |
| 1 | (0) | crimson | 3 | (1) | it | 2 | (0) | potatoes | | | |
| 39 | (71) | cushion | | | | 1 | (0) | press | 0 | (1) | us |
| | | | 0 | (1) | jelly | 6 | (4) | pretty | | | |
| 2 | (3) | dirt | 5 | (2) | juicy | 2 | (0) | puppy | 4 | (6) | velvet |
| 0 | (1) | down | 0 | (1) | jump | 0 | (1) | push | 4 | (5) | very |
| 2 | (5) | downy | | | | 0 | (1) | pussy- | | | |
| 6 | (1) | dress | 0 | (1) | kind | | | willow | 0 | (1) | walk |
| 1 | (1) | drink | 1 | (2) | kitten | | | | 6 | (4) | warm |
| 3 | (0) | drinks | | | | 2 | (0) | quicksand | 5 | (5) | water |
| 1 | (0) | dry | 9 | (4) | lay | 3 | (7) | quiet | 2 | (0) | well |
| | | | 1 | (0) | lay on | 0 | (1) | rain | 2 | (1) | wet |
| 3 | (5) | earth | 1 | (0) | leaf | 0 | (1) | rest | 7 | (2) | white |
| 15 | (28) | easy | 1 | (0) | leather | 0 | (1) | rough | 2 | (1) | wood |
| 1 | (0) | egg | 0 | (1) | leather | 0 | (1) | rough | 9 | (6) | wool |
| 2 | (2) | eraser | 3 | (0) | leaves | 0 | (2) | round | 4 | (0) | woolly |
| | | | 0 | (1) | lesson | 0 | (1) | rub | 0 | (1) | work |
| 1 | (0) | fainting | 1 | (0) | let | | | | | | |
| 0 | (2) | fall | 18 | (32) | light | 5 | (7) | sand | 1 | (0) | you |
| 5 | (3) | feather | 1 | (2) | lightly | 0 | (1) | school | | | |
| 15 | (12) | feathers | 0 | (1) | lightning | 2 | (0) | sea | | | |

8. EATING

| | | | | | | | | | | | |
|----|------|----------|---|-----|-----------|----|------|----------|---|-----|-----------|
| 1 | (2) | appetite | 2 | (1) | enough | 0 | (2) | luncheon | 0 | (1) | sauce |
| 21 | (7) | apple | 0 | (2) | everybody | | | | 1 | (0) | sheath |
| 21 | (7) | apple | | | | 1 | (0) | man | 4 | (0) | sick |
| 1 | (0) | are | 3 | (2) | fast | 0 | (8) | meal | 2 | (0) | slow |
| 20 | (13) | ate | 3 | (2) | fat | 2 | (0) | meals | 1 | (0) | snow |
| | | | 0 | (2) | fill | 42 | (40) | meat | 0 | (2) | something |
| 3 | (0) | baby | 0 | (1) | filled up | 0 | (1) | meeting | 5 | (2) | soup |

| | | | | | | | |
|-----|----------------|----|---------------|----|---------------|-----|----------------|
| 0 | (1) baker | 0 | (1) finish | 1 | (0) mclon | 6 | (18) spoon |
| 5 | (6) banana | 2 | (1) fish | 1 | (0) mice | 0 | (1) starving |
| 0 | (3) bananas | 54 | (103) food | 5 | (2) milk | 0 | (1) steak |
| 1 | (0) beans | 11 | (15) fork | 0 | (2) mother | 1 | (1) stealing |
| 3 | (0) beating | 1 | (0) forks | 0 | (1) mouse | 3 | (1) stomach |
| 2 | (2) bite | 1 | (0) fresh | 4 | (7) mouth | 2 | (0) store |
| 0 | (1) biting | 4 | (4) fruit | 0 | (1) musk- | 5 | (0) stove |
| 178 | (152) bread | 5 | (5) full | | melon | 0 | (1) strong |
| 10 | (20) breakfast | | | 3 | (0) napkin | 3 | (2) sugar |
| 2 | (3) butter | 1 | (3) girl | 2 | (2) nice | 1 | (0) suit |
| | | 1 | (0) girls | 0 | (1) noon | 29 | (30) supper |
| 18 | (9) cake | 39 | (47) good | 0 | (1) noon-time | 5 | (6) swallow |
| 16 | (9) candy | 3 | (0) goodies | 1 | (0) not | 1 | (0) sweet |
| 2 | (4) chair | 2 | (1) grapes | | | 0 | (1) swell |
| 1 | (0) cheese | | | 2 | (2) oatmeal | | |
| 0 | (8) chew | 1 | (0) he | 4 | (3) orange | 108 | (113) table |
| 7 | (3) chewing | 3 | (2) healthy | 0 | (4) oranges | 2 | (0) take |
| 3 | (1) chicken | 1 | (0) heart | | | 1 | (0) taken |
| 1 | (0) clean | 2 | (0) hearty | 3 | (0) peanuts | 3 | (0) taste |
| 2 | (1) coffee | 1 | (0) help | 0 | (1) people | 3 | (2) tasting |
| 1 | (3) cook | 0 | (1) high | 0 | (2) person | 3 | (0) teeth |
| 4 | (2) cookies | 6 | (8) home | 2 | (0) pickles | 6 | (0) Thanks- |
| 0 | (1) cooking | 0 | (3) house | 1 | (8) pie | | giving |
| 1 | (0) cracker | 8 | (3) hot | 3 | (0) pies | 1 | (0) there |
| 3 | (0) cup | 43 | (7) hungry | 3 | (7) plate | 1 | (0) thing |
| | | | | 3 | (0) plates | 1 | (0) things |
| 0 | (1) delicious | 1 | (1) I | 0 | (1) play | 0 | (1) through |
| 0 | (2) digest | 2 | (0) ice | 0 | (1) polite | 0 | (1) tomatoes |
| 0 | (1) dining | 13 | (3) ice-cream | 3 | (0) potato | 1 | (0) too much |
| 42 | (44) dinner | 0 | (1) is | 25 | (23) potatoes | 6 | (0) turkey |
| 1 | (5) dish | 1 | (0) it | 1 | (0) prayer | | |
| 3 | (9) dishes | | | 2 | (0) pudding | 0 | (0) vegetables |
| 1 | (1) done | 2 | (0) kitchen | 1 | (0) pumpkin | 0 | (4) victuals |
| 0 | (1) don't | 8 | (8) knife | | | | |
| 6 | (3) drink | 0 | (2) knives | 1 | (0) rabbit | 1 | (0) waffles |
| 2 | (6) drinking | | | 1 | (0) raisins | 6 | (0) warm |
| 1 | (0) drinks | 1 | (0) let's | 1 | (0) rice | 1 | (0) was |
| 51 | (58) eat | 0 | (2) like | 0 | (1) room | 0 | (1) washing |
| 3 | (2) eaten | 2 | (2) live | | | 0 | (1) water |
| 1 | (0) eating- | 1 | (2) lots | 1 | (0) salt | 0 | (2) we |
| | house | 0 | (1) lumber | 1 | (0) salting | | |
| 3 | (0) eggs | 4 | (11) lunch | | | 0 | (1) you |

9. MOUNTAIN

| | | | | | | | |
|----|----------------|-----|---------------|----|-----------------|----|-----------------|
| 0 | (1) air | 1 | (0) fell | 2 | (2) lion | 0 | (2) Sheep |
| 0 | (1) Alaska | 0 | (1) flowers | 0 | (1) live | 3 | (0) silver |
| 11 | (3) Alps | 0 | (1) forest | | | 2 | (0) skis |
| | | 1 | (5) fountain | 1 | (0) man | 2 | (0) sledding |
| 1 | (0) bad | 1 | (0) forest | 1 | (0) men | 2 | (0) slide |
| 7 | (3) bear | 8 | (0) frozen | 3 | (0) mile | 1 | (0) slippery |
| 1 | (0) beautiful | 2 | (0) fun | 1 | (1) mine | 0 | (1) smoke |
| 13 | (6) big | | | 0 | (1) mineral | 61 | (43) snow |
| 1 | (0) black | 2 | (3) geography | 0 | (1) mines | 3 | (0) snow-y |
| 0 | (1) Blue Mts. | 4 | (1) glacier | 0 | (1) mining | 0 | (1) s ft |
| 1 | (0) boulder | 1 | (1) go | 0 | (1) Montana | 1 | (0) springs |
| 1 | (0) breaks | 0 | (1) goat | 1 | (2) m unt | 3 | (3) squirrel |
| 0 | (2) brick | 3 | (0) goats | 0 | (3) Mt. Blanc | 32 | (24) step |
| 1 | (0) burrow | 15 | (6) gold | 1 | (0) m unted | 12 | (0) stone |
| | | 0 | (1) granite | 0 | (1) mule | 1 | (5) stones |
| 1 | (0) cabin | 2 | (6) grass | | | 0 | (1) summit |
| 1 | (0) California | 1 | (2) ground | 0 | (1) on | 0 | (3) Switzer- |
| 0 | (1) Canada | | | 0 | (1) Osakis | | land |
| 0 | (1) cattle | 1 | (1) hard | 0 | (1) outside | | |
| 0 | (1) cave | 15 | (0) height | | | 0 | (2) tall |
| 1 | (0) caves | 360 | (432) high | 37 | (13) peak | 0 | (1) ten |
| 0 | (1) cement | 1 | (0) higher | 13 | (4) peaks | 0 | (1) the |
| 1 | (7) cliff | 1 | (0) highest | 0 | (2) Pike's Peak | 1 | (1) there |
| 29 | (50) climb | 4 | (0) highland | 1 | (0) place | 0 | (1) things |
| 18 | (12) climbing | 91 | (104) hill | 1 | (0) plain | 0 | (5) top |
| 13 | (0) cold | 6 | (12) hills | 0 | (1) plateau | 0 | (2) train |
| 0 | (2) cool | 0 | (3) hilly | | | 1 | (2) travel |
| 0 | (2) country | 0 | (6) horse | 0 | (1) rain | 0 | (1) traveling |
| 1 | (0) cowboy | 0 | (2) house | 0 | (2) range | 1 | (3) tree |
| 3 | (0) crater | | | 2 | (1) river | 1 | (16) trees |
| 0 | (1) crevice | 1 | (0) I | 0 | (1) rivers | 1 | (0) trolley car |
| | | 10 | (0) ice | 1 | (0) road | | |
| 1 | (0) dark | 2 | (0) iceberg | 15 | (17) rock | 15 | (0) up |
| 1 | (0) decr | 8 | (0) icy | 34 | (47) rocks | | |

| | | | | | | | | | | | |
|---|-----|---------|---|-----|------------------|----|------|---------|----|------|-----------------|
| 0 | (1) | Denver | 1 | (0) | in | 10 | (15) | rocky | 3 | (8) | valley |
| 4 | (3) | dirt | 1 | (0) | is | 0 | (1) | roof | 10 | (14) | volcano |
| 0 | (1) | donkey | 0 | (1) | Keegan's Lake | 0 | (1) | rope | 0 | (1) | walk |
| 4 | (0) | eagle | 0 | (1) | killing | 1 | (0) | run | 1 | (0) | was |
| 0 | (1) | eagles | 0 | (1) | killing | 0 | (1) | sand | 0 | (1) | Washing- ton |
| 0 | (2) | earth | 1 | (2) | lake | 0 | (1) | scene | 0 | (4) | water |
| 1 | (0) | even | 3 | (1) | land | 1 | (0) | scenery | 1 | (0) | west |
| 4 | (0) | fall | 2 | (7) | large | 0 | (1) | school | 2 | (4) | woods |
| 1 | (0) | fallen | 3 | (0) | lava | 0 | (1) | see | 1 | (0) | work |
| 1 | (0) | farther | 1 | (0) | light | 1 | (0) | she | | | |

10. HOUSE

| | | | | | | | | | |
|----|-----------|----|-------------|-----|----------|----|-------------|----|------------|
| 3 | baby | 3 | covering | 2 | in | 4 | our | 1 | stay |
| 12 | barn | 1 | cozy | 1 | indoors | 1 | outdoors | 2 | step |
| 3 | beautiful | 1 | cup | 6 | inside | 1 | over | 3 | steps |
| 7 | bed | | | 1 | is | | | 6 | stone |
| 1 | bell | 1 | dirty | 3 | kitchen | 3 | paint | 8 | stove |
| 51 | big | 30 | door | 3 | lady | 2 | paneled | 1 | swim |
| 2 | black | 5 | doors | 10 | large | 6 | parlor | 19 | table |
| 3 | board | 1 | dwelling | 1 | leaving | 22 | people | 1 | top |
| 1 | boards | 4 | family | 1 | light | 3 | picture | 3 | trees |
| 8 | brick | 4 | farm | 1 | little | 1 | place | 1 | two |
| 2 | bricks | 2 | fire | 1 | live | 1 | plant | | |
| 2 | build | 1 | fog | 165 | live | 3 | plastering | 2 | village |
| 16 | building | 1 | funny | 4 | lived | 2 | play | | |
| 4 | cabin | 23 | furniture | 13 | living | 6 | porch | 1 | wall-paper |
| 1 | camp | | | 4 | lives | 4 | pretty | 1 | ward |
| 2 | carpet | 2 | glass | 1 | look | | | 62 | warm |
| 1 | carpenter | 1 | going | 8 | lumber | 5 | red | 3 | warmth |
| 1 | carpets | 3 | good | 1 | make | 1 | reatore | 3 | white |
| 4 | cellar | 2 | grandmother | 1 | right | 1 | roofs | 1 | wide |
| 43 | chair | 1 | green | 2 | man | 14 | roof | 11 | window |
| 4 | chairs | 1 | gray | 1 | material | 40 | rooms | 12 | windows |
| 8 | children | 4 | ground | 1 | men's | 24 | rooms | 40 | wood |
| 25 | chimney | | | 1 | mice | | | 1 | wooden |
| 2 | clean | 1 | heat | 7 | mother | | | 5 | work |
| 1 | clock | 1 | heavy | 4 | mouse | 2 | school | | |
| 1 | close | 6 | high | 4 | move | 1 | schoolhouse | 3 | yard |
| 1 | coal | 1 | hill | 1 | my | 14 | shelter | 1 | yellow |
| 4 | cold | 1 | hollow | | | 2 | shingles | | |
| 2 | color | 39 | home | 3 | neat | 2 | sleep | | |
| 1 | cooking | 2 | hot | 9 | nice | 5 | small | | |
| 4 | cottage | 5 | houses | 1 | night | 4 | smoke | | |
| 1 | couch | 3 | hut | 1 | no | 1 | stairs | | |

11. BLACK

| | | | | | | | | | |
|-----|------------|-----|-----------|----|-------------|----|---------|----|--------|
| 1 | afraid | 1 | crane | 5 | hair | 5 | mud | 4 | sky |
| 1 | back | 2 | crayons | 3 | hands | 1 | nap | 6 | smoke |
| 1 | ball | 2 | crepe | 6 | bat | 1 | negro | 1 | soil |
| 1 | beard | 315 | dark | 1 | hatbox | 1 | nice | 3 | soot |
| 26 | blackboard | 7 | darkness | 2 | heavy | 15 | night | 1 | sorrow |
| 6 | blue | 3 | danger | 6 | hole | | | 1 | south |
| 43 | board | 1 | dangerous | 4 | horse | 1 | orange | 8 | stove |
| 1 | boards | 1 | dead | 4 | house | | | 1 | stoves |
| 1 | book | 5 | dirt | 2 | I | 32 | paint | 1 | suit |
| 3 | boy | 42 | dirty | 30 | ink | 1 | paneled | 1 | thread |
| 1 | burnt | 12 | dog | 1 | inquire | 3 | pants | 2 | veil |
| | | 1 | drab | 2 | iron | 1 | paper | 3 | very |
| | | 63 | dress | 2 | is | 7 | pen | | |
| 7 | cat | | | | | 13 | pencil | | |
| 4 | chalk | 1 | face | 1 | jacket | | | 3 | waist |
| 4 | charcoal | 5 | feathers | 1 | kitten | 1 | racar | 2 | wear |
| 4 | chimney | 1 | flat | 1 | lever | 1 | rain | 1 | were |
| 2 | clock | 3 | floor | 3 | lead pencil | 3 | red | 27 | white |
| 2 | closed | 1 | funny | 11 | ribbon | | | 3 | woods |
| 9 | cloth | | | | | 1 | sheep | 1 | wool |
| 5 | clothes | | | | | 1 | shine | 1 | write |
| 8 | coal | 1 | globe | 1 | mack | 1 | shirt | 3 | yarn |
| 10 | coat | 3 | gloomy | 1 | men | 1 | shoe | | |
| 1 | coke | 5 | goods | 1 | moon | 9 | shoes | | |
| 104 | color | 1 | green | 1 | mourn | 9 | skirt | | |
| 1 | colors | 1 | gray | 3 | mourning | | | | |
| 4 | coon | | | | | | | | |

12. FUN

| | | | | |
|--------------|-------------|----------------|------------|-------------|
| 2 bad | 1 down | 1 ground | 3 lunch | 1 sew |
| 35 ball | 1 drowned | 4 gun | 6 marbles | 2 shovel |
| 7 baseball | | | 2 money | 2 show |
| 5 basketball | 2 eat | 1 had | 1 much | 4 skate |
| 1 box | 5 eating | 16 happy | | 1 skates |
| 4 boy | 1 enjoy | 4 happiness | | 11 skating |
| 10 boys | 2 enjoying | 17 have | 8 nice | 3 sled |
| 2 build | | 11 hide & seek | 2 noise | 2 slide |
| 1 bun | 2 fall | 4 hockey | | 5 snow |
| 1 butter | 2 fell | 2 hop | 2 outdoors | 6 snowball |
| | 3 fight | 3 hurt | 1 outside | 6 snowballs |
| 1 can | 1 finger | | | 2 snowfight |
| 1 cap | 9 fishing | 1 I | 394 play | 4 sport |
| 4 cheery | 1 food | 1 it | 34 playing | 7 swimming |
| 2 child | 15 football | | 4 pleasure | |
| 13 children | 3 frolic | 3 jokes | | 22 tag |
| 1 clock | 3 full | 1 joking | 3 race | 2 time |
| 1 cookie | 5 funny | 6 jolly | 2 ran | 2 toy |
| | | 29 joy | 1 rat | 1 toys |
| 3 dark | 12 game | 6 jump | 2 read | |
| 1 delight | 38 games | | 3 recess | 1 very |
| 2 delightful | 1 gay | 18 laugh | 3 rope | |
| 4 digging | 1 girl | 2 laughed | 46 run | 2 walk |
| 2 dirt | 2 girls | 3 laughing | 1 running | 1 water |
| 1 doll | 4 glad | 1 light | | 1 well |
| 9 dolls | 9 good | 5 like | 4 school | 1 window |
| 3 doors | 4 goodtime | 5 lots | 1 see | |

13. SCHOOL

| | | | | |
|---------------|-------------|------------|--------------|-------------|
| 39 arithmetic | 31 desk | 18 late | 18 reading | 38 study |
| 2 bell | 20 desks | 93 learn | 1 reads | 2 tardy |
| 14 blackboard | 6 door | 5 learning | 13 recess | 9 teach |
| 24 book | 1 education | 2 lesson | 1 rest | 44 teacher |
| 81 books | 5 eraser | 14 lessons | 1 roof | 6 teaching |
| 3 boy | 1 fool | 1 like | 16 room | 1 telephone |
| 14 boys | 3 fun | 1 map | 4 rooms | 1 theirs |
| 1 brick | | 3 mates | 2 ruler | 1 think |
| 6 building | 6 girls | 3 morning | 1 run | 8 time |
| | 29 go | 6 music | | 1 trees |
| 1 ceiling | 7 going | 5 paper | 6 scholar | 2 Tuttle |
| 1 chair | 3 grounds | 17 pencil | 7 schoolmate | |
| 5 chalk | | 1 pens | 1 schoolroom | 1 wait |
| 101 children | 1 happy | 1 people | 10 seat | 3 went |
| 2 classes | 2 Holmes | 7 play | 3 seats | 1 whole |
| 3 clock | 1 home | 4 playmate | 3 Sheridan | 1 word |
| 1 crayon | 2 hours | 1 pool | 1 smart | 68 work |
| | 14 house | 6 pupil | 17 spelling | 2 working |
| 2 day | | 28 read | 3 spool | 15 write |
| 5 days | 3 language | | 1 starts | 24 writing |
| | | | 1 steps | |
| | | | 2 studies | 3 yard |

14. HAND

| | | | | |
|-------------|---------------|---------|-----------|-------------|
| 44 arm | 14 dirty | 3 have | 6 nail | 1 scratch |
| 1 ax | 1 doing | 1 head | 3 nails | 1 sweat |
| | 2 draw | 1 heart | 1 nice | |
| 3 band | 1 dress | 1 help | | 1 take |
| 2 beckon | | 3 her | 1 o'clock | 3 take hold |
| 12 big | 5 eat | 1 his | 1 one | 1 them |
| 2 black | 4 eating | 17 hold | | 1 there |
| 2 blisters | 3 elbow | 1 hook | 1 pain | 5 throw |
| 4 body | 1 every | 3 hurt | 1 paint | 3 touch |
| 4 bone | 1 eyes | 3 hurts | 6 palm | 3 two |
| 5 bones | | | 1 pen | |
| 1 book | 1 face | 1 iron | 7 pencil | 33 use |
| 1 breakfast | 1 fast | | 1 penny | 1 used |
| 6 broad | 2 fat | 1 kind | 1 pick | 12 useful |
| 3 broke | 2 feel | 1 kiss | 1 picture | 1 using |
| 3 broken | 1 felt | 1 knife | 1 piece | |
| 3 brown | 69 finger | | 1 pores | 7 veins |
| 1 busy | 5 fingernail | 1 land | 7 pretty | |
| 1 button | 3 fingernails | 2 large | 1 pulling | 1 was |
| 1 by | 130 fingers | 6 left | | 5 wash |
| | 1 first | 2 leg | 3 raise | 1 watch |

| | | | | |
|-----------|-----------|----------|----------|-----------|
| 4 carry | 5 five | 2 lift | 2 reach | 13 white |
| 2 catch | 4 flesh | 3 little | 18 right | 1 wood |
| 8 chapped | | 1 long | 11 ring | 113 work |
| 23 clean | 1 girl | | 7 rough | 6 worked |
| 65 clock | 4 gloves | 1 man | | 6 works |
| 1 cloth | 1 go | 5 meat | 1 sand | 4 wrist |
| 7 cold | 1 goes | 4 mitten | 1 sew | 52 write |
| 1 comfort | | 7 move | 6 shake | 1 writes |
| 1 command | 1 handed | 2 moving | 16 skin | 9 writing |
| 3 cook | 1 handle | 2 muscle | 1 skirt | 2 wrote |
| 1 crawl | 1 handout | 2 music | 11 small | |
| 5 cut | 1 hang | 1 my | 10 soft | 1 your |
| | | | 8 sore | 5 yours |

15. SHORT

| | | | | |
|------------|------------|------------|------------|-----------|
| 1 are | 1 eating | 1 large | 1 people | 2 stub |
| 1 around | | 5 leg | 4 person | 15 stubby |
| 12 baby | 11 fat | 4 legs | 1 piece | 2 stump |
| 1 bad | 2 feet | 3 length | 1 pin | 1 stumpy |
| 1 banana | 13 finger | 6 lesson | 1 port | |
| 8 big | 15 fingers | 5 letters | | 12 tall |
| 5 block | 3 flowers | 1 life | 1 quick | 3 thin |
| 5 board | 1 fly | 2 line | 2 reach | 1 thing |
| 1 boat | 1 fort | 157 little | 3 ribbon | 9 time |
| 20 boy | 1 fringe | 1 lock | 1 right | 5 tiny |
| 1 brief | | 54 long | 6 rope | 1 tree |
| 1 broad | 14 girl | 1 lort | 1 round | 1 try |
| 1 broke | 2 good | 5 low | 1 ruler | 1 tubby |
| | | | 1 run | 1 very |
| 7 cake | 8 hair | 43 man | 1 size | 2 waist |
| 1 chalk | 5 hand | 1 men | 7 skirt | 15 walk |
| 3 child | 1 he | 1 micc | 6 sleeve | 1 was |
| 1 close | 1 hook | 1 minute | 214 small | 5 way |
| 4 clothes | 1 hours | 1 mouse | 1 smooth | 1 wide |
| 1 coat | 3 house | 1 my | 1 sock | 3 winter |
| 1 court | | | 14 stick | 2 woman |
| 1 cut | 4 inch | 3 name | 1 still | 1 women |
| | 1 inches | 1 neck | 1 stocking | 1 wood |
| 1 Dan | 1 is | 1 nice | 1 stone | 1 word |
| 4 day | | 3 night | 4 stop | 1 write |
| 1 descent | 1 Japanese | 1 not | 1 stork | |
| 8 distance | 1 jiffy | | 5 story | 2 you |
| 1 dog | 1 ladder | 1 papa | 7 stout | 1 young |
| 38 dress | 1 ladies | 6 pants | 2 strap | |
| | 1 lads | 1 paper | 15 string | |
| 1 easy | 23 lady | 46 pencil | | |

16. FRUIT

| | | | | |
|--------------|-------------|----------|------------|----------------|
| 131 apple | 1 delicious | 2 have | 54 orange | 9 seeds |
| 174 apples | | 1 high | 45 oranges | 2 spoiled |
| | 153 eat | 1 hot | | 3 strawberries |
| 52 banana | 2 eatable | 2 hungry | 8 peach | 20 sweet |
| 44 bananas | 25 eating | | 14 peaches | |
| 1 belong | 1 eatness | 1 jam | 9 pear | 1 taste |
| 5 berries | 1 eggs | 1 juice | 7 pears | 1 there |
| 3 big | | 7 juicy | 4 plums | 1 thing |
| 1 bread | 3 food | | 1 quiet | 7 tree |
| 1 butt | 2 fresh | 1 kind | | 4 trees |
| | | | 3 red | 10 vegetables |
| 4 cake | 3 garden | 2 like | 4 ripe | 3 vegetables |
| 5 California | 89 good | 2 look | 2 rotten | |
| 2 can | 1 goodies | 2 love | | 1 yesterday |
| 1 carrots | 3 grape | | 2 salad | |
| 1 cone | 29 grapes | 1 mute | 2 sauce | |
| | 3 green | 1 nectar | 1 sauces | |
| 1 delicacy | 4 grows | 12 nice | | |

17. BUTTERFLY

| | | | | |
|-----------|---------------|-----------|-----------|-----------|
| 8 air | 1 capture | 4 field | 7 insects | 5 saw |
| 18 animal | 5 catch | 4 flew | 1 it | 3 seen |
| 2 ant | 8 caterpillar | 41 flies | | 1 setting |
| | 3 caught | 19 flower | 5 little | 1 seven |
| 2 beast | 2 chase | 7 flowers | 1 look | 3 silk |
| 1 beating | 10 cocoon | 179 fly | | 5 small |

| | | | | |
|--------------|-------------|-----------|-----------|------------|
| 17 beautiful | 3 color | 1 flyer | 1 moth | 5 soft |
| 6 beauty | 3 colored | 18 flying | 2 net | 1 soul |
| 4 bee | 1 colors | 4 garden | 7 nice | 3 spring |
| 9 big | 16 creature | 3 golden | 1 picture | 16 summer |
| 57 bird | 1 dandelion | 1 green | 4 play | 1 sunbeam |
| 1 bread | 1 dark | 1 head | 1 pet | 1 sunshine |
| 1 bring | 1 dragon | 1 high | 4 powder | 1 web |
| 6 brown | 1 cat | 5 honey | 89 pretty | 13 white |
| 14 bug | 1 cats | 1 hurt | 7 red | 23 wing |
| 5 bugs | 1 fast | 66 insect | 1 rich | 114 wings |
| 54 butter | | | | 6 worm |
| | | | | 47 yellow |

18. SMOOTH

| | | | | |
|---------------|------------|------------|-------------|--------------|
| 1 ain't | 33 desk | 39 ice | 3 picture | 1 smoothbed |
| 4 apple | 4 dress | 1 in | 2 pillow | 3 smoother |
| | | 1 iron | 4 plain | 1 smooths |
| 6 bed | 4 easy | 4 ironed | 4 plane | 6 snow |
| 1 bench | 1 egg | 4 it | 1 play | 132 soft |
| 15 blackboard | 3 eraser | 1 lake | 1 potatoes | 1 soothe |
| 43 board | 70 even | 2 land | 1 pretty | 2 stone |
| 1 book | | 4 leather | 2 quilts | 39 straight |
| 1 box | 3 face | 55 level | 1 right | 16 table |
| 1 bright | 3 feathers | 1 leveled | 3 road | 3 tablecloth |
| 1 butter | 3 feels | 3 light | 10 rock | 1 talk |
| | 2 fine | 2 line | 35 rough | 1 tender |
| 3 candy | 29 flat | 1 lumps | 4 round | 1 thin |
| 4 carpet | 20 floor | 1 mind | 1 rugged | 1 tone |
| 4 cat | 1 flowers | 1 mold | 1 sand | 1 use |
| 4 chair | 11 fur | 3 molded | 1 salt | 1 useful |
| 1 clean | 48 glass | 2 neat | 1 shining | 2 varnish |
| 1 clear | 2 glossy | 68 nice | 7 shiny | 8 velvet |
| 25 cloth | 3 good | 1 no | 1 sight | 3 very |
| 1 clothes | 2 grease | 33 paper | 5 silk | 5 wall |
| 1 coat | 13 ground | 5 pavement | 1 silky | 5 water |
| 1 color | 4 hair | 5 pencil | 4 slick | 4 window |
| 4 cotton | 3 hand | | 2 slide | 5 wood |
| 2 cozy | 10 hard | | 19 slippery | |
| 1 crooked | | | | |
| 2 cup | | | | |

19. CANDY

| | | | | |
|-----------------|--------------|-------------|---------------|--------------|
| 2 ate | 3 coughdrops | 2 goods | 4 marshmallow | 5 soft |
| 2 bad | 2 cream | 2 goody | 5 money | 7 stick |
| 2 bought | 2 dandy | 2 grocers | 7 nice | 9 sticky |
| 12 box | 2 dirty | 14 gum | 7 rickel | 15 store |
| 1 boy | 1 dog | 2 had | 2 nut | 14 suck |
| 1 bring | 181 eat | 11 hard | 2 nuts | 39 sugar |
| 3 brown | 3 catables | 2 hate | 1 pastry | 297 sweet |
| 2 burn | 1 eaten | 5 have | 15 peanut | 1 sweetmeats |
| 7 buy | 13 eating | 2 honey | 4 penny | 3 teeth |
| 2 candy-man | 2 cats | 3 ice cream | 8 peppermint | 2 treat |
| 3 caramels | 1 fruit | 2 lemon | 2 person | 1 wax |
| 1 cat | 7 fudge | 4 licorice | 3 pink | 3 white |
| 25 chocolate | 1 gone | 18 like | 2 please | 1 yellow |
| 5 chocolates | 149 good | 3 love | 2 rich | |
| 1 confectionery | 3 goodies | 8 make | 1 round | |
| 1 cookies | | | | |
| 2 cooks | | | | |

20. CHAIR

| | | | | |
|---------|-----------|----------|----------|------------|
| 21 arm | 1 crooked | 2 have | 6 nice | 17 sitting |
| 6 arms | | 8 heavy | 1 on | 4 small |
| | 5 deak | 9 high | 1 pair | 6 soft |
| 17 back | 1 doll's | 10 house | 1 piece | 3 stand |
| 1 bare | 1 down | 1 I | 5 rest | 8 stool |
| 1 bear | | 1 iron | 3 rock | 5 straight |
| 2 bed | 2 eat | 1 king | 3 rocker | 3 strong |
| 14 big | 1 eating | | | 1 supper |
| 6 board | 9 easy | | | 29 table |
| 1 book | | | | |

| | | | | |
|-----------|-------------|-----------|------------|----------|
| 2 box | 2 fall | 7 large | 13 rocking | |
| 1 boy | 1 feel | 5 leather | | 2 use |
| 5 broke | 1 feet | 18 leg | 9 sat | 2 useful |
| 10 broken | 7 furniture | 26 legs | 2 school | |
| 2 brown | | 1 level | 131 seat | 1 white |
| | 3 good | 1 look | 38 set | 34 wood |
| 2 cloth | 3 grandpa | 3 low | 1 setting | 5 wooden |
| 1 color | | | 430 sit | |
| 3 comfort | 3 hair | 1 nap | 2 sits | 1 yellow |
| | | | | 3 your |

21. SWEET

| | | | | |
|--------------|-------------|--------------|------------|-------------|
| 45 apple | 6 cookies | 10 girl | 17 milk | 1 sick |
| 21 apples | 1 cream | 213 good | | 1 slow |
| | 1 cute | 4 goodies | 37 nice | 7 smell |
| 5 baby | | | | 1 something |
| 1 banana | 1 dear | 1 he | 7 orange | 1 song |
| 8 bananas | 1 delicate | 23 honey | 26 oranges | 1 sorrow |
| 1 beautiful | 4 delicious | | | 1 sounds |
| 1 beloved | 4 doll | 11 ice cream | 3 peas | 23 sour |
| 1 biscuit | 4 drink | 1 it | 3 perfume | 1 stew |
| 1 bite | | | 5 pickle | 178 sugar |
| 1 blossom | 13 eat | 4 jelly | 6 pie | 1 sugary |
| 5 butter | 1 eating | 8 juicy | 1 play | 1 sweetpea |
| 5 bread | | | 1 potatoes | 4 syrup |
| | 1 flavor | 5 lady | 16 pretty | |
| 10 cake | 5 flower | 1 like | | 23 taste |
| 146 candy | 4 flowers | 1 lovable | 3 rich | |
| 3 cherries | 1 freeze | 3 love | 3 rose | 1 very |
| 18 chocolate | 3 frosting | 3 lovely | 4 roses | 1 voice |
| 1 coffee | 4 fruit | | 1 sauce | 1 wood |
| 1 cold | | 2 meat | | |
| | | 1 meet | | |

22. WHISTLE

| | | | | |
|------------|-----------|-----------|------------|-------------|
| 1 aloud | 3 engine | 9 horn | 5 nice | 9 song |
| 2 arrested | | | 185 noise | 18 sound |
| | 3 fast | 1 Jim | 6 noisy | 1 squeaking |
| 1 bad | 2 finger | 1 joy | 6 noon | 6 steam |
| 1 beckoned | 4 fingers | | 4 nose | 1 story |
| 12 bird | 19 fire | 1 kind | 1 note | 1 supper |
| 12 blew | 1 frolic | | | |
| 189 blow | 4 fun | 2 lady | 1 people | 1 thistle |
| 2 blowing | | 1 let's | 1 pipe | 2 time |
| 1 blown | 4 girl | 1 like | 1 plow | 1 tin |
| 2 blows | 1 goat | 1 likes | 7 police | 1 tone |
| 79 boy | 3 good | 6 lips | 1 pretty | 4 toot |
| 24 boys | 1 got | 3 listen | | 21 train |
| 1 breath | 1 green | 1 long | 1 ring | 11 tune |
| 1 bristle | | 71 loud | 1 ristle | |
| 4 bullet | 7 happy | 4 low | 2 round | 2 whisper |
| | 5 hard | | 3 run | 2 whistler |
| 14 call | 1 has | 2 make | | 7 willow |
| 4 calling | 1 have | 6 man | 2 scared | 22 wind |
| 5 can | 5 hear | 1 mean | 2 sharp | 9 wood |
| 1 canary | 3 hearing | 4 merry | 2 shout | 3 wooden |
| 3 can't | 1 help | 1 missle | 11 shrill | 1 work |
| 1 castle | 1 her | 5 morning | 6 sing | |
| 5 come | 1 high | 16 mouth | 2 singing | 1 Yankee |
| | 1 him | 14 music | 1 sings | Doodle |
| 3 dinner | 1 hole | 11 name | 1 somebody | |
| 2 dog | 10 holler | | | |

23. WOMAN

| | | | | |
|-------------|------------|------------|-----------|-------------|
| 4 adult | 1 face | 3 kiss | 1 one | 1 straw hat |
| 1 arm | 2 fashions | | | 3 sweep |
| | 4 fat | 1 laces | 6 people | 12 sweet |
| 3 babies | 1 feather | 13 ladies | 21 person | |
| 5 baby | 9 female | 243 lady | 1 plush | 1 tall |
| 6 bake | 7 furs | 3 large | 1 poor | 1 talk |
| 4 big | | 4 laugh | 12 pretty | 1 tarts |
| 1 blanket | 17 girl | 1 legs | 1 prize | 6 teacher |
| 5 busy | 4 gloves | 1 likeness | | |
| | 2 going | 6 little | 6 run | 1 use |
| 1 can | 12 good | 1 living | | 1 useful |
| 1 child | 1 grin | 1 look | 1 say | |
| 13 children | | 1 looking | 2 sewing | 2 waist |

| | | | | |
|---------------|---------------|-----------|------------|-------------|
| 3 cleans | 7 hair | 1 maid | 4 sews | 9 walk |
| 1 cloth | 5 hands | 4 mamma | 1 shawl | 1 walking |
| 9 clothes | 44 hat | 17 man | 4 she | 2 warm |
| 1 club | 1 hats | 4 marry | 1 shoe | 17 wash |
| 2 coat | 2 head | 5 married | 3 shoes | 4 washed |
| 19 cook | 1 hire | 1 me | 1 shopping | 5 washing |
| 3 cooking | 3 home | 2 mean | 4 short | 2 washwoman |
| 5 cooks | 1 hose | 1 men | 2 silk | 1 way |
| 1 crone | 7 house | 1 men | 1 sings | 1 weak |
| | 2 housekeeper | 1 mend | 1 singing | 1 wealthy |
| 1 dead | 1 housework | 1 Miss | 13 skirt | 1 went |
| 1 dies | | 53 mother | 7 skirts | 1 widow |
| 5 dishes | 1 it | | 1 slim | 18 women |
| 5 dishwashing | 1 Jennie | 2 neat | 1 slow | 42 work |
| 90 dress | | 10 nice | 5 small | 9 works |
| 17 dresses | 3 kind | 9 old | 1 straight | |

24. COLD

| | | | | |
|--------------|-------------|--------------|-------------|---------------|
| 5 air | 10 coal | 16 froze | 8 nose | 62 snow |
| 2 awful | 17 coat | 9 frozen | 1 numb | 1 soup |
| 1 baby | 1 colder | 1 fuel | 1 old | 1 stony |
| 2 bad | 13 cool | 2 fun | 1 one | 5 stove |
| 1 beng | 37 cough | 1 hand | 4 out | 3 thermometer |
| 1 below | 1 coughs | 13 hands | 9 outdoors | 1 thing |
| 1 bird | 1 cream | 1 hard | 3 outside | 1 think |
| 2 biting | 1 damp | 1 head | 13 overcoat | 6 today |
| 6 bitter | 25 day | 1 heat | | 1 too |
| 10 black | 1 do | 1 hold | 1 pneumonia | |
| 1 blackboard | 5 doctor | 12 hot | 1 pole | 8 very |
| 25 blow | 3 dog | 11 house | | |
| 3 held | 1 diary | 4 hunger | 1 rain | 25 warm |
| 3 boy | | | 1 recent | 1 warming |
| 1 breath | 6 cars | 84 ice | 1 red | 1 was |
| 4 breeze | 4 evening | 3 ice cream | 4 room | 5 water |
| 1 bundle | | 6 icy | | 34 weather |
| 12 burn | 5 feel | 3 illness | 1 severe | 7 whooping |
| 3 buttermilk | 6 feet | 1 is | 1 she | 36 wind |
| | 1 felt | 1 it | 15 shiver | 5 windy |
| 1 came | 1 fever | | 5 shivering | 103 winter |
| 1 chair | 9 fingers | 1 Jack Frost | 1 shivery | |
| 1 chase | 17 fire | | 4 sick | |
| 3 child | 68 freeze | 1 mat | 4 skates | |
| 5 chill | 40 freezing | 1 medicine | 6 sleet | 8 zero |
| 1 chilly | 5 frost | 4 mitten | 4 sliding | |
| 1 close | 1 frosty | 1 m. bl. | 1 snore | |

25. SLOW

| | | | | |
|--------------|------------|-------------|-------------|------------|
| 9 auto | 2 dress | 2 lame | 3 reading | 9 time |
| 1 automobile | | 2 late | 3 reads | 4 tired |
| 4 awful | 9 early | 1 lazily | 7 run | 4 tiresome |
| | 13 easy | 3 laz | | 2 too |
| 2 babies | 3 eating | 5 less us | 2 said | 1 top |
| 1 baby | 5 elephant | 14 long | 10 school | 1 tops |
| 2 bad | 1 engine | | 3 sex | 2 tortoise |
| 3 balky | | 10 man | 3 short | 3 train |
| 9 behind | 65 fast | 1 me | 1 show | 22 turtle |
| 2 bicycle | 4 faster | 2 m. lasses | 1 slack | |
| 3 blow | 3 feeble | 4 move | 5 sleepy | 7 very |
| 2 book | 4 feet | 2 moving | 8 slowly | |
| 16 boy | | 2 music | 2 snail | 21 wagon |
| | 19 girl | | 1 snake | 1 wait |
| 1 can't | 3 girls | 2 near | 2 snow | 1 wake |
| 1 cat | 2 glow | 1 night | 1 soft | 1 waken |
| 4 child | 18 go | 8 not | 2 something | 107 walk |
| 2 children | 3 goes | 2 not quick | 1 song | 12 walking |
| 36 clock | 4 good | | 1 stew | 2 walks |
| 4 come | | 1 oh | 2 still | 4 was |
| 1 cooled | 2 happy | 2 old | 16 stop | 1 way |
| 2 cow | 1 he | 14 even | 3 stopping | 31 work |
| 2 crawl | 3 heavy | | 1 stork | 1 worker |
| | 29 horse | 3 people | 1 stupid | 2 working |
| 3 dinner | 2 horses | 1 pig | 1 sum | 1 worry |
| 5 dog | 20 hurry | 4 poke | 5 swift | 4 write |
| 8 donkey | | 35 poky | | 1 writing |
| 1 don't | 10 lag | | 5 talking | |
| 7 drag | 1 lagging | 4 quick | 3 tedious | 7 you |

26. WISH

| | | | | |
|--------------|-------------|----------|---------------|------------|
| 3 anything | 3 dollar | 1 harm | 1 nickel | 5 thing |
| 2 apple | 11 dress | 25 have | | 2 things |
| 9 ask | | 2 her | 1 offer | 37 think |
| 2 asked | 1 eat | 5 home | | 3 thought |
| 5 asks | | 10 hope | 1 park | 2 thousand |
| 1 at home | 3 fairies | 16 horse | 1 pen | 1 time |
| | 64 fairy | 2 horses | 17 pony | 2 toy |
| 4 ball | 2 father | 3 house | 4 present | 6 toys |
| 3 bicycle | 6 fish | | 2 prince | 6 train |
| 3 birthday | 2 flowers | 6 I | | 43 true |
| 3 boat | 6 for | 4 ice | 1 rainbow | 2 wagon |
| 85 bone | 2 fun | 1 ill | 5 ribbon | 1 wait |
| 3 book | 8 furs | 2 it | 9 rich | 5 wand |
| 4 boy | | | | 99 want |
| 5 cake | 5 game | 2 king | 2 sad | 3 wanted |
| 41 candy | 18 get | | 5 Santa Claus | 4 watch |
| 3 cap | 7 gift | 10 like | 1 sane | 1 water |
| 3 cat | 1 gladly | 3 look | 2 school | 6 well |
| 15 Christmas | 1 go | 1 lot | 2 she | 2 what |
| 5 come | 1 going | 17 luck | 1 show | 1 which |
| 1 cone | 3 gold | | 12 skates | 7 wishbone |
| 6 could | 19 good | 1 mad | 4 sled | 2 wished |
| | 2 grand | 3 man | 36 something | 3 wishing |
| 4 desire | 14 grant | 4 merry | 2 storybook | 4 witch |
| 4 did | 4 guess | 1 mish | 3 suit | 1 with |
| 3 dish | 13 had | 12 money | | 1 worked |
| 3 do | 3 happiness | 1 monkey | 1 tall | |
| 16 dog | 3 happy | | 4 telling | 2 you |
| 46 doll | 3 hard | 6 nice | 1 the | |

27. RIVER

| | | | | |
|------------|------------|----------------|------------|-------------|
| 4 bath | 11 drown | 3 high | 1 ran | 4 small |
| 4 bathing | 11 drowned | | 3 rapid | 2 soft |
| 14 big | 9 drowning | 13 ice | 1 riding | 30 stream |
| 37 boat | | 1 icy | 1 rivulet | 6 swift |
| 1 branches | 1 fall | 42 lake | 1 road | 72 swim |
| 3 bridge | 4 fast | 1 large | 4 rock | 77 swimming |
| 1 brood | 34 fish | 1 lime | 3 row | 1 that |
| 7 brook | 8 fishing | 5 long | 5 run | |
| | 1 float | 3 low | 13 running | 433 water |
| 4 canoe | 16 flow | | 16 runs | 2 wave |
| 1 cold | 5 flowing | 17 Mississippi | 3 sail | 3 waves |
| 5 current | 33 flows | 1 muddy | 1 saw | 1 wear |
| | 1 freeze | | 1 silver | 10 wide |
| 44 deep | 2 frog | 1 near | 4 skate | 1 width |
| 2 delta | 2 froze | | 1 sliver | |
| 2 dirty | 6 frozen | 3 ocean | 3 slow | 1 Yangtze |
| 1 dive | | | | |
| | 2 go over | | | |

28. WHITE

| | | | | |
|--------------|-----------|-------------|-------------|--------------|
| 1 air | 3 collar | 8 goods | 1 net | 1 sewing |
| 1 angel | 116 color | 1 gown | 10 nice | 1 sheep |
| 6 apron | 1 colored | | 1 nightgown | 7 sheet |
| | 2 cotton | 2 hair | | 1 ship |
| 1 baby | 2 curtain | 2 hands | 1 old | 1 shoes |
| 2 bath tub | | 1 hard | | 1 sick |
| 5 beautiful | 1 dainty | 1 hat | 6 paint | 2 sky |
| 1 billow | 1 dark | 3 horse | 6 pale | 65 snow |
| 1 bird | 3 dead | 19 house | 1 pants | 1 soft |
| 28 black | 1 dike | 1 hurt | 54 paper | 2 still |
| 1 blackboard | 3 dirty | | 1 people | 2 stocking |
| 1 blue | 1 do | 1 ice | 1 pictures | 1 swan |
| 1 board | 4 dog | 1 ice cream | 1 pig | 1 sweep |
| 1 brave | 1 draw | | 1 pigeon | |
| 3 bread | 149 dress | 1 jacket | 1 pillow | 1 table |
| 16 bright | 1 duck | 1 jam | 1 plain | 6 tablecloth |
| | | | 24 pretty | 1 thread |
| 4 cat | 5 face | 1 kitten | 4 pure | 1 tight |
| 3 chair | 1 fast | | | 1 too |
| 7 chalk | 1 fine | 1 lace | 1 rabbit | 1 towels |
| 97 clean | 8 flag | 125 light | 1 red | |
| 4 clear | 1 flight | 2 lovely | 1 rib | 1 veil |
| 1 cloak | 1 flour | | 14 ribbon | 1 very |

| | | | | |
|-----------|-----------|--------|----------|----------|
| 61 cloth | 4 flowers | 1 man | 1 right | |
| 5 clothes | | 2 mice | 1 rims | 6 waist |
| 1 cloud | 2 ghost | 7 milk | | 1 walls |
| 1 clouds | 1 gleam | 1 my | 1 sail | 1 wear |
| 3 coat | 1 goat | | 1 screen | |
| 1 coin | 1 good | 1 name | 1 see | 2 yellow |

29. BEAUTIFUL

| | | | | |
|-------------|-------------|---------------|-------------|--------------|
| 1 are | 6 dog | 7 hat | 2 name | 4 she |
| 10 baby | 28 dress | 4 homely | 169 nice | 1 shine |
| 1 be | | 9 horse | 1 niceful | 9 silk |
| 19 beauty | 4 face | 7 house | | 3 skin |
| 1 bed | 1 fair | | 2 palace | 3 stars |
| 3 belle | 1 feet | 1 is | 4 park | 2 store |
| 5 bird | 3 fine | | 1 petticoat | 7 sun |
| 1 birds | 1 flag | 1 jewelry | 15 picture | 3 sunset |
| 1 bright | 6 flower | | 3 pictures | 3 sweet |
| 7 butterfly | 37 flowers | 38 lady | 1 plant | 2 swell |
| 1 bury | 1 forest | 4 lake | 5 pony | |
| | 1 fountain | 3 laugh | 2 powder | 1 thing |
| 1 careful | 4 garden | 2 like | 280 pretty | 3 tree |
| 1 carriage | 27 girl | 3 lion | 3 prince | 3 very |
| 12 cat | 1 glorious | 1 look | 4 princess | |
| 3 child | 3 good | 3 looking | | 2 wagon |
| 1 class | 1 gorgeous | 3 looks | 3 ribbon | 13 woman |
| 2 clean | 2 graceful | 4 love | 1 rich | 5 women |
| 5 coat | 10 grand | 1 loving | 3 ring | 12 wonderful |
| 14 color | 3 great | 8 lovely | 2 river | 4 woods |
| 5 cute | 1 green | | 9 rose | 3 wreath |
| | | 1 magnificent | 2 roses | |
| 3 day | 7 hair | 2 man | | 9 you |
| 1 diamonds | 1 have | 1 mother | 2 satin | |
| 30 doll | 13 handsome | 1 mountain | 2 scenery | |
| | | 1 muff | | |

30. WINDOW

| | | | | |
|------------|-----------|-------------|-------------|------------|
| 8 air | 3 dirty | 1 icicle | 5 room | 4 sun |
| | 2 door | 1 invisible | 1 run | |
| 1 ball | 1 down | 1 it | | 1 take |
| 8 big | | | 1 sale | 1 through |
| 1 blows | 1 fall | 2 large | 1 sash | 1 toys |
| 1 board | 6 frame | 47 light | 1 sat | 4 tree |
| 13 break | 1 fresh | 3 little | 2 school | 5 trees |
| 1 breeze | 1 frost | 116 look | 1 screen | |
| 1 brick | 1 frosty | 2 looked | 36 see | 9 up |
| 37 broke | 1 froze | 2 looking | 1 seeing | |
| 23 broken | 1 frozen | 8 lookout | 6 shade | 1 varnish |
| | | | 2 shines | |
| 1 church | 1 girl | 24 open | 1 shiny | 12 wash |
| 1 class | 1 glance | 6 out | 1 shot | 1 white |
| 6 clean | 421 glass | 4 outdoors | 5 shut | 5 wide |
| 1 close | 1 grass | | 9 sill | 2 wind |
| 21 cold | | 62 pane | 2 stained | 1 windmill |
| 1 cooler | 1 hall | 1 pillow | 1 stare | 2 windows |
| 1 comfort | 12 house | 1 plate | 1 straight | 1 wood |
| 7 curtain | | | 1 streetcar | |
| 1 curtains | 1 I | 1 rattle | 1 storm | |

31. ROUGH

| | | | | |
|----------|------------|-------------|------------|------------|
| 2 angry | 2 decay | 2 horrid | 1 pain | 8 sidewalk |
| 2 are | 3 dirt | 2 horse | 12 paper | 2 skin |
| | 3 dog | 1 humpy | 3 place | 2 alivers |
| 16 bad | 1 doll | 8 hurt | 2 plain | 2 small |
| 1 bear | 2 door | 1 hurtful | 5 plaster | 35 smooth |
| 2 beard | 1 dress | | 25 play | 1 soft |
| 4 big | | 9 ice | 3 playing | 1 stand |
| 27 board | 1 enemy | 1 iceberg | 1 pleasant | 1 sticker |
| 1 book | | 2 irregular | 2 poor | 11 stone |
| 89 boy | 1 fall | | 1 pump | 4 stones |
| 37 boys | 6 fight | 2 jagged | | 1 stove |
| 2 broom | 2 fighting | 2 jerky | 1 rat | 2 stumps |
| 2 bump | 1 file | | 1 railway | |
| 23 bumps | 2 files | 1 knot | 1 red | 2 table |
| 61 bumpy | 1 flat | 2 language | 1 ribs | 1 tear |
| | 15 floor | | 2 right | 1 torn |

| | | | | |
|-------------|------------|-------------|-------------|-----------------|
| 1 cake | 2 football | 1 leather | 41 road | 7 tough |
| 1 candy | 2 frog | 1 line | 8 rock | 1 tree |
| 4 careless | 3 fur | 1 logs | 4 rocks | |
| 1 carpet | 1 fuzzy | 2 lumpy | 10 rocky | 1 uncomfortable |
| 1 chair | | | 1 roof | 13 uneven |
| 1 chap | 1 gentle | 11 man | 2 round | 1 unkind |
| 5 chapped | 1 girl | 71 mean | 2 rowdy | 2 unlevel |
| 1 Charles | 1 glass | 1 meat | 3 rude | 2 unsmooth |
| 7 child | 1 goody | 1 men | 1 rug | |
| 6 cloth | 1 grass | 3 mountain | 10 rugged | 1 voice |
| 2 clothes | 14 ground | 5 mountains | 1 rush | |
| 1 ciunmay | 1 gruff | 1 mouse | | 1 wall |
| 4 coarse | | | 6 sand | 4 water |
| 1 coat | 13 hand | 1 nasty | 2 sandpaper | 2 waters |
| 1 cocoa | 15 hands | 3 naughty | 2 sandy | 4 waves |
| 1 come | 144 hard | 1 no good | 4 sea | 1 wind |
| 1 cough | 1 hill | | 2 shaggy | 15 wood |
| 1 crooked | 3 hit | 8 ocean | 1 shake | 1 work |
| 1 cut-glass | 4 hitting | 1 old | 1 shoes | 1 wrestle |
| | | 1 ouch | | |

32. STORK

| | | | | |
|------------|------------|------------|--------------|-------------|
| 1 Africa | 4 chimney | 3 Germany | 11 long-legs | 1 ship |
| 14 animal | 1 colors | 1 girl | | 1 shoot |
| 1 animals | 1 crane | 1 going | 1 many | 1 shot |
| | | | 1 mean | 1 skin |
| 34 babies | 1 dear | 1 have | 1 meat | 1 slender |
| 287 baby | 1 duck | 1 head | 1 mother | 2 small |
| 11 beak | 2 Dutch | 9 Holland | | 1 spaghetti |
| 26 big | | 1 house | 4 neck | 1 stole |
| 16 bill | 1 eat | | 14 nest | 1 stories |
| 372 bird | 1 eggs | 1 I | 1 nice | 1 strange |
| 2 bring | | 1 is | | 1 swift |
| 1 brook | 1 fast | | 1 ostrich | |
| 1 brother | 1 feather | 1 kill | | 4 tall |
| 1 building | 6 feathers | | 1 plan | 1 talk |
| | 1 fish | 2 large | 1 play | |
| 1 carried | 19 fly | 3 leg | | 2 walk |
| 2 carries | 1 flies | 41 legs | 1 quick | 3 white |
| 1 carry | 1 foot | 1 life | | 4 wing |
| 1 chicken | 1 fork | 14 long | 1 river | 35 wings |
| 1 children | 1 frogs | 1 long-leg | 1 rork | |

33. FOOT

| | | | | |
|------------|------------|---------------|-----------|-----------------|
| 11 ache | 1 dog | 1 ladder | 1 piece | 1 stockings |
| 1 afoot | | 1 lady | 1 print | 1 stool |
| 15 ankle | 1 fat | 1 lame | | 1 strong |
| | 71 feet | 6 large | 1 rough | 1 swollen |
| 1 ball | 1 figure | 1 leak | 1 rule | |
| 3 bare | 1 fingers | 79 leg | 1 ruler | 1 teacher |
| 2 barefoot | 1 fleet | 36 legs | 22 run | 1 tiny |
| 1 beat | 2 flesh | 1 like | 1 runs | 1 tired |
| 27 big | 1 football | 8 little | | 34 toe |
| 1 black | | 1 look | 1 shape | 81 toes |
| 11 body | 4 go | 1 foot | 73 shoe | 1 track |
| 10 bone | 1 go on | 11 long | 8 shoes | 1 twelve inches |
| 1 bones | | 1 lumber | 1 abot | |
| 1 boot | 1 had | | 5 skin | 1 useful |
| 1 boots | 5 hand | 12 man | 1 slipper | |
| 1 bottom | 5 hands | 1 march | 7 small | 205 walk |
| 16 break | 1 heel | 1 measure | 1 soothe | 3 walked |
| 7 broke | 18 hurt | 1 measurement | 23 sore | 8 walking |
| 3 broken | 1 hurts | 1 muscle | 1 sort | 38 walka |
| | | 1 my | 1 sour | 1 warm |
| 3 clean | 1 inches | | 1 square | 1 wide |
| 6 cold | | 5 nails | 1 stamp | 1 wiped |
| 21 corn | 2 jump | | 1 stank | 1 wonderful |
| 4 corns | | 1 one | 3 stand | 1 work |
| 1 crawls | 6 kick | | 11 step | |
| 2 cut | 1 kicked | 1 people | 1 stink | 1 yard |

34. SPIDER

| | | | | |
|-----------|-----------|---------|---------|------------|
| 5 afraid | 1 cobwebs | 1 funny | 4 lucky | 2 sews |
| 36 animal | 1 cones | | | 1 shanty |
| 1 ant | 2 cook | 1 glass | 1 mean | 1 six legs |
| 1 awful | 1 corner | 1 grown | 1 meat | 8 small |

| | | | | |
|-------------|-----------------|-------------|-------------|-----------|
| 1 bad | 18 crawl | 1 hang | 1 mider | 1 soft |
| 1 banana | 4 crawling | 1 head | 1 Muffet | 10 spin |
| 14 big | 54 crawls | 1 hid | 2 nasty | 6 spins |
| 2 bit | 6 creature | 1 hoops | 1 nice | 1 spun |
| 25 bite | 2 crept | 1 hornet | 1 no | 1 stepped |
| 2 biter | 1 crow | 7 house | 4 pan | 2 sting |
| 5 bites | 1 daddylonglegs | 57 insect | 1 parlor | 1 trap |
| 1 biting | 1 dirt | 1 insects | 36 poison | 3 ugly |
| 4 body | 5 eggs | 4 kill | 2 poisonous | 19 walk |
| 1 boy | 1 enemy | 4 killed | 1 put | 5 wall |
| 83 bug | 1 eye | 1 kind | 1 reptile | 1 wasps |
| 1 build | 1 face | 1 large | 2 round | 261 web |
| 1 burn | 1 farm | 1 leg | 3 run | 2 webs |
| 1 butterfly | 6 feet | 107 legs | 1 scare | 7 weave |
| 1 catch | 1 flee | 17 little | 1 see | 1 wing |
| 1 caught | 40 fly | 19 long | 1 sew | 2 worm |
| 1 claws | 1 flyeater | 11 longlegs | | |
| 2 clmb | 9 fry | | | |
| 12 cobweb | | | | |

35. NEEDLE

| | | | | |
|-----------|-----------|-----------|-------------|-------------|
| 1 angry | 2 eyes | 1 lung | 2 pricked | 2 sticks |
| 1 article | 1 feather | 3 machine | 1 reedle | 1 sting |
| 2 awake | 7 finger | 2 mother | 2 scratch | 1 stockings |
| 1 beetle | 1 food | 2 nickcl | 449 sew | 1 string |
| 1 bench | 3 good | 1 old | 3 sewed | 4 thin |
| 2 bend | 5 head | 5 pick | 1 sewer | 1 thing |
| 1 bumpy | 11 hole | 1 pierce | 81 sewing | 72 thread |
| 8 cloth | 3 hold | 36 pin | 3 sews | 1 tin |
| 1 clothes | 1 hurt | 1 pins | 56 sharp | 1 tool |
| 1 doll | 1 lamp | 23 point | 2 sharpened | 1 wire |
| 17 dress | 7 large | 5 pointed | 3 silver | 6 work |
| 41 eye | 17 little | 16 prick | 11 small | |
| | | | 23 steel | |
| | | | 39 stick | |

36. RED

| | | | | |
|------------|-------------|------------|--------------|-------------|
| 1 afraid | 1 children | 2 goods | 2 ass | 1 run |
| 42 apple | 1 Christmas | 4 green | 1 orange | 1 sale |
| 14 apples | 65 cloth | 13 hair | 24 paint | 11 scarlet |
| 1 at | 9 coat | 2 happy | 1 painted | 2 school |
| 1 baby | 1 cold | 5 hat | 2 paper | 1 see |
| 6 ball | 298 color | 1 head | 1 papers | 1 shiny |
| 1 barn | 1 colors | 1 homely | 2 pencil | 1 sled |
| 1 bead | 1 cows | 1 hood | 1 pill w | 1 squirrel |
| 1 bell | 1 crayon | 1 hot | 1 punch | 1 star |
| 1 bells | 31 danger | 7 house | 3 punk | 1 stockings |
| 3 belt | 6 dark | 4 Indian | 14 pretty | 1 story |
| 1 bench | 1 dirty | 13 lantern | 1 ra fish | 10 sweater |
| 14 blood | 1 door | 2 led | 5 read | 1 Sweden |
| 9 blue | 1 draw | 1 letters | 1 ready | 1 talk |
| 35 book | 85 dress | 15 light | 1 remarkable | 1 that |
| 1 books | 1 dresses | 1 lip | 16 ribbon | 1 thread |
| 1 bow | 1 eraser | 1 look | 1 ring | 4 waist |
| 1 bx | 2 face | 1 morn | 1 river | 1 wake |
| 1 bread | 9 fire | 1 needle | 1 roal | 1 war |
| 68 bright | 24 flag | 2 nice | 1 robin | 18 white |
| 1 calendar | 4 flower | | 1 rose | 1 words |
| 6 candy | 2 flowers | | 1 rosy | 1 yellow |
| 1 canoe | 1 fly | | 2 rug | |
| 4 cap | | | | |

37. SLEEP

| | | | | |
|----------|------------|--------|--------------|-----------|
| 1 asleep | 1 down | 1 keep | 1 peace | 4 slept |
| 14 awake | 3 doze | 5 late | 1 peacefully | 6 slumber |
| 1 awoke | 55 dream | 9 lay | 1 people | 15 snore |
| 28 baby | 5 dreaming | 1 lays | 8 pillow | 1 snores |
| 351 bed | 6 drowsy | 6 lazy | 1 pray | 1 snoring |
| 31 beds | 1 dust | 1 lean | 1 quilt | 24 sound |
| | | | | 5 still |

| | | | | |
|----------|-------------|-----------|--------------|-----------|
| 1 bird | 1 enough | 1 lie | 1 quilt | 1 sweep |
| 6 boy | 1 eye | 1 lies | 12 quilts | 1 take |
| 1 boys | 40 eyes | 1 like | | 1 time |
| 1 bride | | 3 long | 40 rest | 67 tired |
| 1 buggy | 1 fall | | 1 resting | 1 uncle |
| | 3 fast | 9 man | | |
| 1 calm | 1 fine | 1 me | 1 see | |
| 1 candy | | 1 meet | 1 senseless | |
| 6 child | 1 gentle | 1 morning | 1 she | 6 wake |
| 1 clean | 1 girl | 1 mothers | 1 sheep | 1 wakch |
| 5 close | 1 go | 3 much | 1 sheet | 1 we |
| 1 closed | 7 good | | 5 shut | 1 went |
| 1 crept | 1 goodnight | 15 nap | 1 shutting | 1 will |
| 1 cross | | 4 need | 1 silent | 1 woman |
| | 1 happy | 3 nice | 4 sleeping | 1 writing |
| 16 dark | 1 hard | 95 night | 9 sleepy | |
| 1 did | | | 1 sleepyhead | 1 you |
| 1 do | 1 I | 1 papa | 1 sleet | |

38. ANGER

| | | | | |
|-------------|-------------|------------|--------------|------------|
| 1 Alonzo | 1 disobey | 1 hands | 53 mean | 1 spank |
| 1 angrily | 6 dog | 3 happy | 1 mind | 1 spanking |
| 20 angry | | 1 harm | 1 mother | 1 strong |
| 1 ant | 1 eat | 3 he | | 7 swear |
| 1 at | | 1 him | 1 naughty | |
| | 1 fancy | 1 horse | 6 nice | 6 teacher |
| 1 baby | 4 fierce | 1 hungry | | 8 temper |
| 17 bad | 57 fight | | 1 on | 1 tiger |
| 1 bashful | 19 fighting | 1 I | | 5 tired |
| 1 beer | 1 finger | | 1 play | |
| 1 bet | 1 flop | 6 kill | | 8 ugly |
| 1 blow | 1 funny | 1 killed | 12 quarrel | 1 unhappy |
| 38 boy | 1 furious | | 1 quarreling | |
| 15 boys | 1 fury | 1 lady | 1 quick | 1 very |
| | | 1 language | | |
| 1 children | 3 girl | 1 langer | 1 rough | 1 walk |
| 10 cranky | 1 girls | 1 large | | 1 we |
| 1 cries | 9 glad | 1 lion | 1 saucy | 1 weary |
| 56 cross | 7 good | 1 lookout | 10 scold | 1 whack |
| 1 crossness | 1 grave | | 3 scowl | 1 wicked |
| 1 cruel | 1 greedy | 471 mad | 1 sin | 1 wild |
| 6 cry | 1 grouch | 1 madness | 1 soften | 1 wolf |
| | 1 grow | 1 mamma | 9 sore | 11 woman |
| 1 danger | 1 growl | 45 man | 1 sorrow | |

39. CARPET

| | | | | |
|-------------|-------------|-----------|------------|-----------|
| 20 beat | 1 down | 10 lays | 9 rag | 1 sweeps |
| 1 beating | 9 dust | 1 like | 4 rags | 1 swept |
| 9 beautiful | 15 dusty | 1 little | 1 ragged | |
| 4 big | | 1 long | 8 red | 2 tack |
| 1 black | 1 fall | | 1 rolled | 20 tacks |
| 6 blue | 1 feet | 1 man | 2 room | 1 the |
| 1 border | 1 felt | 1 marble | 4 rough | 1 thread |
| 9 broom | 1 flat | 12 mat | 245 rug | 1 torn |
| 2 brown | 149 floor | 1 mice | 2 rugs | |
| 1 brush | 2 flowers | 1 moth | 1 run | 6 velvet |
| 3 brussels | 1 foot | 1 mothers | | |
| | 2 front | 1 muddy | 1 Saturday | 88 walk |
| 3 chairs | 2 fur | | 1 sbake | 3 walked |
| 1 children | 2 furniture | 15 new | 1 sing | 1 walking |
| 18 clean | | 15 nice | 5 small | 2 walks |
| 19 cloth | 3 green | | 7 smooth | 1 warm |
| 16 color | | 1 on | 28 soft | 1 wash |
| 3 colors | 1 hall | | 2 square | 1 we |
| 1 cover | 1 have | 1 person | 1 stain | 1 weave |
| | 12 home | 1 pit | 1 stand | 1 weed |
| 1 design | 30 house | 1 poor | 4 step | 1 wheels |
| 1 designs | | 16 pretty | 1 straw | 1 will |
| 10 dirt | 6 large | 1 put | 45 sweep | 1 wipe |
| 35 dirty | 2 lay | | 1 sweeper | 1 women |
| | | | | 1 woven |

40. GIRL

| | | | | |
|--------------|------------|----------|---------|----------|
| 1 anger | 1 dolls | 1 her | 2 money | 2 she |
| | 240 dress | 6 home | | 8 shoes |
| 11 baby | 23 dresses | 1 homely | 1 neat | 1 sing |
| 34 beautiful | | 3 house | 24 nice | 4 sister |

| | | | | |
|-------------|-----------|------------|------------|-------------|
| 1 beauty | 2 eat | 6 human | 1 Pearl | 2 skirt |
| 2 being | 11 eyes | 1 June | 5 people | 2 skirts |
| 22 big | 19 face | 1 jumping | 18 person | 2 small |
| 40 boy | 1 fair | 7 kiss | 1 pies | 1 sole |
| 1 boys | 1 fancy | 1 lad | 1 plant | 2 stockings |
| 2 bracelet | 5 feet | 26 lady | 18 play | 11 sweet |
| 1 cap | 22 female | 1 leg | 3 playing | 1 talks |
| 45 child | 1 flirt | 5 laugh | 2 playmate | 1 that |
| 12 children | 1 flower | 1 legs | 3 plays | 1 there |
| 2 clean | 1 foot | 7 little | 1 poor | 3 walks |
| 26 clothes | 1 full | 1 live | 25 pretty | 1 wash |
| 1 clothing | 8 furs | 5 love | 19 ribbon | 1 washes |
| 1 coat | 1 giggle | 3 maid | 5 ribbons | 1 went |
| 10 cook | 2 girls | 2 maiden | 1 rill | 1 where |
| 1 creature | 17 good | 1 Margaret | 3 run | 1 wife |
| 1 cry | 1 grow | 1 Marion | 21 school | 8 woman |
| 1 curl | 38 hair | 4 mate | 1 scold | 1 women |
| 3 curls | 10 hands | 2 me | 2 sew | 8 work |
| 1 cute | 1 happy | 5 mean | 1 sewed | 1 wrangle |
| 1 dancer | 17 hat | 1 mirth | 1 sews | 1 write |
| 1 daughter | 1 have | 4 miss | | 2 you |
| 23 doll | | | | 8 young |

41. HIGH

| | | | | |
|-------------|--------------|-----------|--------------|------------|
| 2 above | 9 church | 2 gastank | 1 lumber | 1 ship |
| 4 aeroplane | 1 class | 1 globe | 1 man | 1 sing |
| 9 afraid | 10 cliff | 1 goat | 1 money | 1 size |
| 50 air | 1 climb | 5 good | 1 moon | 22 sky |
| 4 airship | 1 clock | 1 goodies | 120 mountain | 1 so |
| 1 Alps | 3 clouds | 1 hair | 5 mountains | 1 stand |
| 7 apple | 3 cold | 1 hard | 1 my | 1 stars |
| 10 apples | 1 courthouse | 1 heaven | 1 nest | 30 steep |
| 1 arc | 1 crust | 10 height | 4 nice | 1 steeple |
| 1 bakery | 1 cut | 92 hill | 2 nigh | 1 step |
| 1 balloon | 16 deep | 1 home | 1 number | 1 sun |
| 3 bank | 1 did | 32 house | 1 oranges | 14 swing |
| 1 beans | 3 distance | 1 in | 2 peak | 56 tall |
| 1 bees | 1 ear | 1 iron | 8 peaks | 1 thought |
| 14 big | 18 eat | 7 jump | 1 picture | 1 throw |
| 5 bird | 3 eating | 1 jumped | 1 post | 1 tone |
| 1 birds | 1 embankment | 1 king | 10 reach | 5 top |
| 1 blow | 1 every | 1 ladder | 1 righ | 13 tower |
| 1 boy | 22 fall | 1 large | 1 road | 7 tree |
| 1 build | 58 far | 3 length | 1 rock | 5 trees |
| 32 building | 1 fate | 1 light | 12 rocks | 60 up |
| 1 bush | 2 fence | 8 long | 16 roof | 3 very |
| 7 butter | 1 flagpole | 1 look | 1 room | 1 vines |
| 1 cake | 1 flower | 1 loud | 1 rug | 9 wall |
| 3 castle | 1 flowers | 25 low | 1 school | 3 way up |
| 8 ceiling | 24 fly | | | 2 windmill |
| 7 chair | | | | |
| 1 children | | | | |

42. WORKING

| | | | | |
|-------------|-------------|------------|------------|---------------|
| 3 bad | 1 driving | 1 helping | 3 noon | 1 slow |
| 1 bank | 1 drudging | 7 home | 1 not | 1 stonequarry |
| 2 beds | 1 dust | 20 horse | 9 pay | 1 stop |
| 1 bench | 1 dusting | 1 hot | 1 people | 12 store |
| 1 better | 10 earn | 1 house | 1 pinch | 2 strong |
| 1 blind | 1 earning | 6 job | 34 play | 11 study |
| 8 books | 1 eat | 18 labor | 11 playing | 2 sturdy |
| 1 boss | 2 factories | 1 laboring | 1 plumber | 3 sweat |
| 7 boy | 6 factory | 1 lace | 1 pop | 2 task |
| 1 boys | 1 farm | 1 late | 1 rake | 1 thrifty |
| 1 bricks | 6 farmer | 13 lazy | 1 rate | 29 tired |
| 1 build | 1 fast | 2 learn | 9 rest | 1 today |
| 49 busy | 12 father | 4 learning | 1 sand | 2 toil |
| 2 carpenter | 1 fireman | 1 light | 1 saving | 1 ton |
| 1 chair | | 4 loafing | | 1 tools |
| 1 chop | | | | 1 tried |

| | | | | |
|------------|----------|-------------|--------------|-----------|
| 1 cigar | 3 garden | 1 lumber | 1 scholar | |
| 15 clothes | 2 girl | | 13 school | 3 wash |
| 1 crust | 5 girls | 6 machine | 1 scrub | 1 well |
| | 1 good | 1 machinist | 10 shop | 10 woman |
| 8 day | | 1 make | 1 shopping | 3 women |
| 1 digging | 1 hammer | 93 man | 2 shovel | 2 wood |
| 19 dishes | 1 hand | 1 mark | 1 shovelling | 19 work |
| 9 do | 7 hands | 53 men | 1 shovels | 2 worked |
| 4 doing | 299 hard | 4 mind | 1 slave | 1 workman |
| 1 done | 1 he | 1 mining | 1 sleep | 1 workmen |
| 1 doughnut | 4 help | 27 money | 1 sleeping | 1 writing |

43. SOUR

| | | | | |
|---------------|----------|------------|---------------|--------------|
| 47 apple | 54 eat | 8 kraut | 1 peaches | 1 sting |
| 49 apples | 1 face | 57 lemon | 21 pickle | 1 stomach |
| 7 ate | 1 food | 3 lemons | 89 pickles | 4 strong |
| 25 bad | 19 fruit | 1 liquid | 1 pie plant | 1 sugar |
| 63 bitter | | 1 four | 1 plum | 75 sweet |
| 1 boy | 33 good | 1 meat | 1 plums | 28 taste |
| 1 burnas | 1 grape | 124 milk | 1 poison | 1 tasteful |
| 3 buttermilk | 8 grapes | | 1 radish | 1 tastes |
| | 9 green | 6 nasty | 1 rotten | 1 that |
| 3 cabbage | 13 hard | 8 nice | 4 salad | 1 things |
| 9 candy | 1 have | 1 no | 7 salt | 1 too |
| 1 cider | 1 horrid | 1 not | 1 salts | 1 tour |
| 1 corn | | 1 onion | 4 sauce | 1 unhappy |
| 1 cow | 1 it | 1 our | 1 scour | 1 unpleasant |
| 1 cranberries | | 1 onions | 1 sorry | 1 unsweet |
| 52 cream | 9 juice | 8 orange | 1 soup | 53 vinegar |
| 4 cucumber | 1 juicy | 17 oranges | 24 sauerkraut | 1 very |
| | 1 kettle | | 1 spoiled | |
| 1 dill | | 1 pancake | | 1 warm |
| 1 drink | | | | 1 water |

44. EARTH

| | | | | |
|--------------|--------------|------------|-----------|-------------|
| 4 air | 1 feet | 4 houses | 4 plant | 2 star |
| 1 awful | 2 fertile | | 1 plaster | 1 step |
| | 1 fire | 1 in | 5 play | 1 stone |
| 18 ball | 2 flowers | 1 is | | 1 stones |
| 21 big | 1 food | 43 land | 5 quake | 1 stream |
| 2 birth | 3 frightened | 34 large | | |
| 73 black | 1 froze | 1 light | 1 rabbit | 4 tree |
| 1 blue | 1 frozen | 38 live | 3 roads | 3 trees |
| 1 boy | | 1 lovely | 2 rock | |
| 1 bright | 4 garden | | 1 rocks | 1 vegetable |
| 1 brook | 4 globe | 1 man | 5 rocky | |
| | 1 God | 1 meek | 1 rough | 15 walk |
| 1 city | 1 good | 1 moist | 82 round | 1 walking |
| 1 cloud | 9 grass | 1 mother | | 3 warm |
| 1 coat | 2 gravel | 1 mountain | 39 sand | 4 water |
| 3 cold | 2 green | 1 mud | 2 seed | 1 we |
| 1 color | 1 grit | 1 muddy | 1 shack | 1 woods |
| 1 corn | 223 ground | | 1 shovels | 1 work |
| | 1 grow | 2 nature | 1 sinking | 30 world |
| 1 deep | | 1 nice | 6 sky | 1 worms |
| 1 dig | 31 hard | 1 nose | 1 snow | |
| 1 dirth | 7 heaven | 1 open | 1 sod | 1 yard |
| 102 dirt | 5 hemisphere | | 4 soft | 1 you |
| 1 dug | 3 high | | 4 soil | |
| | 10 hole | | 1 solid | |
| 9 earthquake | 33 house | 23 people | 3 sphere | |

45. GARDEN

| | | | | |
|--------------|-------------|----------|------------|----------|
| 1 angel | 13 eat | 1 grown | 6 nice | 1 raked |
| 1 apple | | 9 grows | | 3 rose |
| 36 apples | 2 farm | | 2 onions | 5 roses |
| | 1 father's | 7 hoe | | 1 round |
| 1 baby | 2 fence | 1 hoeing | 1 pansy | |
| 15 beautiful | 4 field | | 1 pardon | 4 seed |
| 1 beet | 1 first | 1 I | 3 peas | 8 seeds |
| 13 big | 132 flower | | 1 person | 2 shovel |
| | 327 flowers | 4 land | 37 plant | 1 soil |
| 5 cabbage | 2 food | 1 large | 1 planting | 2 sow |
| 1 cakes | 1 fragrant | 1 lilies | 20 plants | 3 summer |
| | 52 fruit | | | |

2 carrot
20 carrots
12 corn
1 club
1 den
10 dirt
9 earth

3 fruits
3 gardener
2 good
1 grand
1 green
19 ground
34 grow
5 growing

1 made
5 make
5 man
1 marden
1 men
1 mine
1 mother's
1 mud

3 play
1 poppies
3 potato
32 potatoes
5 pretty
2 pumpkin
3 radish
1 raise

3 tomatoes
28 vegetable
38 vegetables
1 weather
1 wet
2 yard

1 am
1 arc
1 armor
63 army
1 bang
14 battle
1 blue
3 boy
53 brave
1 bride
1 cadet
1 camp
1 cannon
24 captain
1 citizen
5 command
7 comrades
1 country
1 cruel

7 danger
3 dead
1 die
2 died
1 drill
1 enemy
160 fight
2 fighter
40 fighting
10 fights
1 flag
1 for
1 general
3 German
1 go
5 good
1 great
1 grows

46. SOLDIER

9 guard
61 gun
1 guns
2 hard
2 hat
1 he
1 I
1 is
8 killed
1 leg
95 man
30 march
1 marches
6 marching
3 men
2 money
2 musket

1 navy
1 nice
1 of
4 officer
6 old
1 papa
1 patriotic
1 poor
1 powder
1 sad
1 save
17 shoot
4 shot
1 stab
2 stand
1 star
32 straight
8 strong
6 suit

26 sword
1 tall
4 uniform
1 United States
1 walking
203 war
1 warring
5 warrior
1 word
1 work
1 working
1 worries
2 worry
1 worth
1 wound
1 wounded
2 write
3 young

1 apples
1 ate
1 bad
5 big
1 boiled
11 bugs
1 bread
3 carrot
9 cellar
42 cook
13 cooking
1 did
11 dinner
193 eat
1 eatables

9 eating
4 farm
1 field
2 fine
3 food
1 fresh
1 froze
1 fruit
1 garbage
46 garden
40 good
1 green
17 grow
1 growing
3 grows
3 hard

47. CABBAGE

47 head
1 heart
1 house
1 hungry
1 I
1 it
2 kraut
1 lazy
2 leaf
62 leaves
1 lettuce
1 like
4 nice
7 patch

1 peeling
27 plant
2 pork
1 pot
1 potatoes
1 pumpkin
13 rabbit
25 rabbits
1 raw
2 roots
3 rotten
26 round
7 salad
1 sauce
1 saucer
34 sauerkraut
1 scent
2 sell

1 sick
6 smell
31 soup
12 sour
1 spareribs
1 spoiled
7 stewed
1 strong
1 stump
15 supper
3 sweet
140 vegetable
34 vegetables
1 well
9 white
4 worm
1 yard

13 apple
1 apples
5 bad
1 baked
16 ball
1 bard
1 bat
1 bed
5 big
2 bite
2 black
26 board
1 bone
1 bones
39 bread
8 break
1 breakable

1 can't
2 cement
4 chair
1 chalk
1 chosen
2 chunk
1 coal
1 cracked
9 crust
1 desk
13 dirt
1 do
1 door
17 earth
1 easy

48. HARD

4 hand
10 heavy
3 house
2 hurt
32 ice
1 ice cream
36 iron
1 jelly
4 jar
1 leg
1 lock
3 lump
1 man
1 Marie

1 pound
1 press
1 pudding
1 radiator
1 ring
1 road
93 rock
1 rocks
1 rocky
20 rough
1 rub
1 sharp
1 sidewalk
1 slippery
25 smooth
14 snow

1 strong
1 stuck
1 sweep
1 tack
1 test
1 that
1 there
1 thick
1 thing
1 throw
7 tough
1 very
1 was
1 water
1 winter

| | | | | |
|----------|-----------|----------|-----------|-----------|
| 22 brick | 1 fight | 2 mean | 65 soft | 30 wood |
| 1 bricks | 54 floor | | 17 solid | 1 word |
| 1 bumpy | 1 frozen | 3 nut | 1 sore | 89 work |
| 1 butter | | 1 old | 1 sort | 1 worker |
| | 4 glass | | 1 sound | 2 working |
| 1 cake | 1 good | 4 packed | 4 stiff | 1 worry |
| 1 can | 51 ground | 1 plate | 113 stone | |
| 48 candy | | 2 play | | |

49. EAGLE

| | | | | |
|-------------|-------------|---------------|-------------|-----------------|
| 1 air | 3 cloud | 3 gray | 9 mean | 1 small |
| 19 American | 1 condor | | 1 miegle | 1 soar |
| 1 angry | 1 coward | 2 head | 35 mountain | 1 steal |
| 6 animal | | 1 hen hawk | | 1 strength |
| | 1 dog | 6 high | 1 name | 30 strong |
| 11 baby | | | 18 nest | 1 swift |
| 1 banner | 6 eat | 1 imagination | 2 owl | 1 swoop |
| 2 beak | 1 eggs | 1 insect | | |
| 2 beast | 1 emblem | 1 insects | | 1 talons |
| 1 beater | 1 eyes | 1 invisible | 1 play | 1 teeth |
| 52 big | | | 2 pretty | 3 thief |
| 2 bill | 9 feather | 1 kidnap | | 1 took |
| 373 bird | 28 feathers | 1 kill | 1 reagle | |
| 2 birds | 1 fierce | 1 king | 1 robber | 4 United States |
| 3 bite | 2 flag | | 2 run | |
| 6 black | 1 flew | 1 lamb | 1 savage | 2 warbird |
| 1 bregle | 26 flies | 19 large | 2 scratch | 1 white |
| | 120 fly | 1 lodge | 1 seven | 43 wing |
| 1 chicken | 10 flying | | 2 show | 49 wings |
| 1 child | | 3 mad | 1 size | 1 work |
| 30 claws | 1 gander | 3 man | 1 slide | 1 wrong |
| 1 cliff | 1 good | | | |

50. STOMACH

| | | | | |
|-----------|-------------|---------------|------------|------------|
| 189 ache | 2 cramps | 1 grind | 1 meal | 22 sore |
| 3 aches | | 1 grow | 2 mean | 1 sound |
| 1 apples | 8 digest | 1 guts | 1 meat | 3 sour |
| 1 ate | 1 digestion | | 1 milk | 1 steak |
| | 1 dinner | 1 had | 1 music | 1 stick |
| 13 bad | 1 doctor | 1 hammock | | 1 stone |
| 1 ball | 1 drouth | 3 hard | 1 name | 1 stumble |
| 48 belly | | 7 healthy | | 1 swallow |
| 1 belt | 2 each | 21 heart | 1 out | |
| 3 big | 108 eat | 1 heavy | | 3 throat |
| 2 bladder | 1 eatable | 1 hill | 18 pain | 1 tomato |
| 2 blood | 16 eating | 6 hungry | 1 people | 2 treat |
| 78 body | 1 eats | 23 hurt | 1 person | 1 tripe |
| 2 bones | 5 empty | 5 hurts | 10 poor | 11 trouble |
| 1 born | | | 1 pudding | 1 tube |
| 4 bowels | 1 fall | 1 I | | |
| 9 boy | 1 false | 5 indigestion | 1 rice | 1 veins |
| 3 bread | 16 fat | 9 inside | 1 ring | 1 velvet |
| 3 breast | 1 feed | 6 insides | 1 rock | 1 vital |
| 2 breathe | 2 feeling | 1 intestine | 1 rotten | |
| 1 brick | 1 feet | | 3 round | |
| | 1 felt | 4 kidney | | 1 warm |
| 1 candy | 2 fleah | | 1 see | 1 water |
| 4 care | 82 food | 1 lazy | 1 short | 15 weak |
| 4 chest | 1 for food | 1 light | 85 sick | 1 well |
| 2 clean | 19 full | 1 little | 1 sickness | 3 white |
| 1 close | | 1 liver | 13 akin | 1 wood |
| 1 cold | 1 garbage | 1 lumic | 1 soft | |
| | 23 good | 6 lungs | | |

51. STEM

| | | | | |
|-------------|-----------|----------|----------|----------|
| 25 apple | 15 corn | 1 hard | 1 pick | 1 string |
| | 1 crooked | 1 have | 1 pin | 1 strong |
| 1 bad | 41 cut | 1 hold | 42 pipe | 1 sugar |
| 1 beginning | | 1 holds | 25 plant | 1 system |
| 1 bend | 1 down | 3 hollow | 1 plants | |
| 1 bent | | | 1 point | 5 tall |
| 1 berries | 1 earth | 14 juicy | | 1 them |
| 14 big | 1 eating | | 1 red | 1 thick |
| 1 bitter | 8 end | 1 large | 2 reed | 11 thin |

| | | | | |
|-----------|------------|----------|------------|---------|
| 1 black | | 11 leaf | 13 root | 1 top |
| 1 blossom | 1 firm | 1 leaves | 3 rose | 35 tree |
| 1 boat | 367 flower | 3 letter | 1 roses | 1 trees |
| 1 body | 80 flowers | 3 lily | 1 rough | 1 trunk |
| 1 bone | 1 foot | 6 limb | 1 rubber | 9 twig |
| 1 bough | 1 froze | 60 long | | 1 vine |
| 16 branch | 1 fruit | 1 look | 4 short | |
| 1 broke | | 1 lots | 6 slender | 8 weed |
| 20 broken | 1 gray | | 3 slim | 1 white |
| 1 brown | 1 grass | 1 paint | 1 small | 1 wide |
| 1 buds | 48 green | 1 paper | 1 sort | 8 wood |
| 1 burn | 1 ground | 1 part | 4 stalk | |
| | 9 grow | 1 paste | 1 stand | |
| 1 came | 1 growing | 1 pen | 10 stick | |
| 1 cord | 1 grows | 1 pencil | 2 straight | |

52. LAMP

| | | | | |
|------------|-------------|------------|-----------|----------|
| 1 bedtime | 1 ceiling | 12 gas | 1 lantern | 4 shade |
| 3 big | 18 chimney | 50 glass | 648 light | 2 shine |
| 1 blaze | 1 color | 5 globe | 4 lights | 1 sleep |
| 1 blow | 1 command | 3 good | | 1 small |
| 1 blue | | | 1 nice | 2 smoke |
| 1 box | 1 damp | 1 hanging | 6 night | 1 stamp |
| 3 break | 1 dark | 1 hard | | 4 street |
| 8 bright | 1 desk | 1 have | 38 oil | |
| 1 broke | 1 down | 10 home | 1 oily | 1 tipped |
| 1 broken | | 1 hook | 3 out | |
| 70 burn | 1 exploded | | | 1 white |
| 1 burns | 1 explosion | 1 is | 1 pretty | 19 wick |
| 10 burning | | | 1 red | 1 wool |
| | 22 fire | 4 kerosene | | 1 yellow |
| 1 camp | 9 fires | 1 kitchen | 3 see | |
| 1 cat | 3 flame | | | |

53. DREAM

| | | | | |
|--------------|-------------|---------------|-------------|-------------|
| 2 about | 1 cry | 1 happened | 3 picture | 1 talk |
| 6 afraid | | 12 happy | 1 pictures | 1 tell |
| 1 alas | 4 dark | 1 hear | 9 pleasant | 5 thing |
| 1 Alice | 1 day | 1 her | 1 position | 13 things |
| 2 angels | 1 dies | 2 horses | 1 pretty | 30 think |
| 1 angels | 3 do | 1 house | | 2 thinking |
| 1 animal | 1 doll | | 1 quiet | 3 thought |
| 7 asleep | 1 doze | 1 imagination | | 1 thoughts |
| 5 awake | 2 dreaming | 8 imagine | 1 rats | 1 train |
| 4 awful | 1 dreamland | | 1 ream | 1 true |
| | 1 dreamt | 1 lady | 1 robbers | |
| 2 baby | 1 dream | 1 lake | 1 rose | 1 used |
| 31 bad | 1 drowsy | 1 laugh | | |
| 1 bear | | 1 lessons | 1 Santa | 4 vision |
| 1 bears | 1 fairies | 1 like | 1 scared | 1 visions |
| 20 beautiful | 3 fairy | 1 lions | 1 school | |
| 78 bed | 2 fairyland | 3 long | 1 scream | 1 war |
| 1 bedtime | 1 fierce | | 4 see | 1 was |
| 1 bird | 4 fight | 8 man | 1 sister | 1 water |
| 1 boat | 4 fire | 1 mare | 272 sleep | 1 way |
| 1 book | 1 flowers | 1 mine | 8 sleeping | 1 what |
| 6 boy | 3 fun | 1 money | 1 sleepy | 2 window |
| 1 burglar | 13 funny | | 4 something | 5 wonder |
| | | 1 never | 1 spirit | 4 wonderful |
| 1 can | 4 ghost | 9 nice | 6 stories | 1 wondrous |
| 1 car | 7 girl | 260 night | 8 story | |
| 1 cat | 1 gleam | 3 nightmare | 6 strange | 1 yell |
| 1 children | 20 good | 1 noise | 1 sweet | |
| 1 cream | | 1 nothing | | |

54. YELLOW

| | | | | |
|-------------|--------------|---------------|-----------|------------|
| 3 apple | 1 coat | 3 golden | 8 nice | 1 ruler |
| | 1 corn | 10 goldenrod | | |
| 1 ball | 320 color | 1 good | 81 orange | 2 saffron |
| 11 banana | 1 colored | 9 green | 1 oranges | 1 sea |
| 1 beautiful | 3 colors | | | 1 shine |
| 1 bed | 1 cream | 3 hair | 21 paint | 1 silk |
| 1 bicycle | | 1 hair ribbon | 1 pale | 1 skin |
| 4 bird | 4 daisy | 1 hall | 1 pants | 1 spelling |
| 1 black | 15 dandelion | 3 hat | 3 paper | 1 stars |
| 1 blossom | 1 dark | 1 honey | 1 peach | 1 suit |

| | | | | |
|-------------|------------|-----------|-----------|-------------|
| 3 blue | 1 dish | 3 house | 1 peaches | 1 sulphur |
| 3 book | 1 do | | 1 peanut | 5 sun |
| 1 box | 1 draw | 1 I | 9 pencil | 5 sunflower |
| 30 bright | 129 dress | 1 is | 1 pillow | |
| 1 brother | | | 1 pink | 1 tulips |
| 3 brown | 1 egg | 1 Japan | 1 plant | 1 very |
| 8 butter | | | 14 pretty | |
| 1 buttercup | 1 fellow | 1 lantern | 1 pumpkin | 4 waist |
| 7 butterfly | 1 fever | 1 leaf | | 5 white |
| | 1 fire | 13 lemon | 1 race | 1 woodwork |
| 4 cake | 105 flower | 59 light | 7 red | |
| 1 canary | | | 1 rellow | |
| 1 Carlo | 1 girl | 1 mellow | 7 ribbon | 1 yeast |
| 1 clock | 1 globe | 1 money | 1 river | 1 yellowish |
| 8 cloth | 1 gold | | 1 rose | |

55. BREAD

| | | | | |
|------------|--------------|------------|-----------|------------|
| 1 all gone | 1 crumb | 1 fresh | 1 life | 1 raisin |
| 2 ate | 8 crumbs | 1 ginger | 1 light | 13 rye |
| | 3 crust | 1 good | 1 like | |
| 1 bad | 1 cut | 90 loaf | 10 loaves | 1 said |
| 13 bake | | 4 grain | 1 lot | 3 salt |
| 9 baked | 1 daily | 1 hair | 3 made | 1 sandwich |
| 1 baker | 1 dead | 11 hard | 5 make | 17 alice |
| 9 baking | 3 dinner | 1 have | 2 meal | 9 soft |
| 1 Belgium | 80 dough | 1 homemade | 1 milk | 5 stale |
| 3 biscuit | 1 dry | 1 honey | 1 mother | 1 strength |
| 1 black | | 3 hungry | | 1 supper |
| 1 breath | 356 eat | 1 it | 1 oatmeal | 3 sweet |
| 3 brown | 1 estables | | 1 oven | 1 taste |
| 1 burn | 14 eating | 5 jelly | 1 pudding | 1 Tip Top |
| 68 butter | 1 eats | 1 kind | 1 piece | 1 use |
| | 1 five cents | 1 knced | 1 rabbit | 1 Wanda |
| 3 cake | 95 flour | 2 knife | | 7 wheat |
| 2 coffee | 37 food | | | 48 white |
| 3 cook | 1 fried | | | |
| 1 crisp | | | | |

56. FLAG

| | | | | |
|-------------|-----------|---------------|----------------------|------------------|
| 33 America | 2 drill | 1 knew | 1 Polish | 1 stars & |
| 95 American | | 1 lag | 2 post | stripes |
| 1 any | 1 English | 1 land | 14 pretty | 3 state |
| 5 army | | 1 language | 1 proud | 1 stick |
| | 1 fell | 1 liberty | 5 rag | 9 stripe |
| 1 bag | 4 fly | 1 lines | 1 raised | 1 striped |
| 38 banner | 1 flying | 2 love | 94 red | 26 stripes |
| 1 battle | 6 free | | 1 red & white | 1 Swede |
| 1 beautiful | 2 French | 1 make | 19 red, white & blue | 1 sword |
| 15 big | 3 German | 2 man | 1 Russian | 1 tag |
| 1 birthday | 1 Germany | 2 march | | 1 train |
| 1 blow | 6 good | | 1 salute | 1 truth |
| 28 blue | 2 goods | 15 nation | 2 school | |
| 2 brave | 1 green | 2 nationality | 1 shine | 19 United States |
| 3 bright | | 2 native | 1 signal | 1 war |
| | 1 hag | 1 navy | 3 silk | 62 wave |
| 1 carry | 3 high | 4 nice | 2 soldier | 39 waves |
| 1 cling | 1 hold | | 2 soldiers | 11 waving |
| 34 cloth | 1 hurrah | 2 our | 1 staff | 1 wavy |
| 25 color | | 2 ours | 5 star | 1 we |
| 1 colored | 1 Irish | 2 play | 36 stars | 5 white |
| 88 colors | | 38 pole | | 1 window |
| 1 continent | 6 July | | | |
| 121 country | | | | |

57. BOY

| | | | | |
|-----------|------------|-----------|-------------|-----------|
| 1 active | 1 ear | 2 health | 7 mean | 3 shirt |
| 1 afraid | 1 eat | 1 hearted | 1 mouth | 8 shoes |
| | 2 errand | 1 height | 1 myself | 1 shout |
| 6 baby | 2 eyes | 1 help | | 1 sister |
| 36 bad | | 1 home | 2 name | 25 skate |
| 55 ball | 2 face | 1 horse | 9 naughty | 2 skates |
| 1 bean | 1 fat | 3 human | 3 necktie | 1 skating |
| 1 being | 2 feet | 1 hungry | 1 negro | 1 ski |
| 1 bicycle | 11 fight | 1 jacket | 17 nice | 1 skull |
| 9 big | 2 fighting | | 1 nightmare | 9 small |

| | | | | |
|-------------|-------------|-----------|-----------|-------------|
| 2 blue | 1 fights | 1 John | 1 no | 6 snowball |
| 1 body | 1 fish | 1 jump | | 4 son |
| 1 boyhood | 1 fishing | 1 Junior | 63 pants | 1 store |
| 3 boys | 7 football | | 5 people | 7 strong |
| 3 brave | 1 foy | 10 kid | 26 person | 6 suit |
| 2 bright | 1 frank | 1 killed | 84 play | 1 swim |
| 1 brother | 8 fun | 1 kites | 1 playful | |
| 1 bum | 1 funny | | 3 plays | 2 tie |
| | | 1 lad | 1 poor | 1 toe |
| 53 cap | 6 games | 2 large | 1 pretty | 1 toes |
| 45 child | 2 gentleman | 1 laugh | | 2 toy |
| 14 children | 32 girl | 1 lazy | 1 quick | 1 trouble |
| 1 clean | 1 girls | 3 leg | | 16 trousers |
| 9 clothes | 1 go | 1 like | 1 race | |
| 9 coat | 37 good | 1 limbs | 1 read | 1 Vivian |
| 1 color | 1 grocery | 12 little | 1 red | |
| 1 cows | 2 grow | 1 living | 1 rich | 2 waist |
| 1 creature | 1 growing | 1 joy | 1 romp | 2 wagon |
| | | 1 luck | 18 rough | 1 walk |
| 1 darkey | 5 hair | | 1 Roy | 1 walked |
| 2 dirty | 1 haircut | 4 mad | 18 run | 1 wear |
| 1 do | 1 happy | 9 male | 3 running | 14 whistle |
| 1 driving | 1 hard | 61 man | 5 runs | 29 work |
| 1 drum | 6 hat | 5 marbles | | |
| | 6 he | 1 master | 11 school | 4 young |
| 1 eager | 7 head | 2 me | 1 see | |

58. LIGHT

| | | | | |
|--------------|------------|-------------|------------|-----------|
| 1 Aladdin | 67 day | 1 headlight | 1 noon-day | 1 star |
| 5 air | 1 daytime | 1 heaven | | 1 stone |
| | 2 dirt | 4 heavy | 1 oil | 1 store |
| 1 baby | 1 dog | 1 help | 3 out | 2 strong |
| 1 barn | 1 dress | 1 home | 1 outside | 2 suit |
| 1 beautiful | | 9 house | | 29 sun |
| 1 bird | 6 easy | | 4 paper | 1 sunny |
| 1 black | 5 electric | 1 is | 1 penny | |
| 1 blaze | 1 enough | 1 kerosene | 1 pin | 1 thought |
| 1 book | 2 eyes | | 2 pretty | 1 to-day |
| 1 boy | | 251 lamp | 3 poor | 1 tower |
| 1 bread | 1 fair | 2 late | | |
| 74 bright | 5 feather | 1 lighting | 1 radiant | 1 up |
| 1 brighter | 19 fire | 1 lights | 1 read | 1 us |
| 5 burn | 1 flame | 1 like | 5 red | |
| 1 burned | 1 flash | 4 look | 6 room | 1 walk |
| 4 burning | 1 flowers | | 43 see | 3 want |
| | | 2 man | 1 seen | 2 warm |
| 2 candle | 64 gas | 18 match | 2 shade | 17 white |
| 5 clear | 1 glad | 1 matches | 1 sharp | 12 window |
| 1 coal | 1 glass | 1 mean | 30 shine | 1 windows |
| 11 color | 47 good | 2 might | 3 shining | 4 work |
| 1 complexion | 1 grate | 4 moon | 1 ship | 2 write |
| 1 cotton | | 6 morning | 2 shone | 1 writing |
| | 5 hair | 4 nice | 2 sky | 9 yellow |
| 99 dark | 1 hall | 10 night | 4 soft | 9 yes |
| 1 dawn | 1 hard | | | |

59. LAUGH

| | | | | |
|-------------|-------------|------------|------------|-------------|
| 1 ache | 2 enjoy | 28 hard | 4 man | 5 smiling |
| 3 aloud | 1 enjoying | 4 hearty | 3 me | 1 sober |
| 1 always | 1 easy | 1 hiccough | 20 merry | 3 something |
| | | | 1 monkey | 1 squeak |
| 7 baby | 7 face | 7 joke | 4 mouth | 35 sweet |
| 14 boy | 2 fine | 1 jokes | | |
| 1 boys | 138 fun | 50 jolly | 3 noise | 9 talk |
| 1 burst | 97 funny | 53 joy | | 1 talked |
| | | 1 joyful | 1 people | 1 teeth |
| 1 calling | 1 gay | | 1 person | 1 tickle |
| 1 cat | 22 giggle | 1 lady | 1 play | 1 tickled |
| 1 chatter | 33 girl | 3 laughed | 2 pretty | 1 time |
| 2 cherry | 1 girls | 2 laughing | | |
| 27 children | 26 glad | 7 laughter | | |
| 1 clown | 3 gladness | 1 like | 1 Santa | 1 weak |
| 1 comical | 1 glee | 2 lips | 1 set | 1 wide |
| 1 cough | 9 good | 2 long | 2 she | 1 with |
| 1 crazy | 3 gun | 1 lot | 1 shout | 5 woman |
| 1 crow | | 38 loud | 2 show | 1 women |
| 14 cry | 10 ha ha | 1 lumber | 1 sideache | 1 wrong |
| | 4 happiness | | 2 silly | |
| 2 do | 78 happy | 1 makes | 1 sing | 6 you |
| | | | 150 smile | |

2 angel
1 angels
3 believe
5 big
4 black
1 blessed
2 blue
224 book
1 burnt
1 carry
1 catechism
2 Catholic
3 chapter
22 Christ
10 Christian
110 church
2 church book
1 class
1 comment
1 create
1 cries
2 cross
1 dear
1 dog
1 faith
3 faithful
2 Genesis
124 God
1 God's word
20 good
2 gospel
1 have
1 heaven
38 history
68 holy
3 holy book
2 house

47 baby
1 bitter
10 bottle
2 boy
2 bread
3 breakfast
1 butter
1 can
10 cat
7 coffee
4 cold
1 cook
280 cow
7 cows
27 cream
1 cup
4 drank
360 drink
3 drinking
1 drinks
1 dry
2 eat
4 farm
1 fat
1 food
1 fresh

1 afraid
117 animal
1 animals
1 ate
2 baa
6 baby
1 beast
3 bed
2 bell
7 big
6 black
7 blast
1 bones
1 boy
1 brick
1 buy
3 catch
11 cattle
1 child
1 clean
3 cloth
1 clothes
1 coat
1 cool
8 country
2 cover
1 cows
1 cunning
1 deep
1 did
4 dog
3 eat
1 eyes
2 face
9 farm
1 fed
1 feed
1 field
4 fleece
1 fleet
29 flock
1 flocks
1 frisky
11 fur

13 baby
1 baby's
1 ball
27 bathe
2 bathed
1 bathhouse
1 cleanliness
10 cold
1 cool
2 dirt
9 dirty

60. BIBLE

1 hymns
1 Jacob
1 James
36 Jesus
7 learn
1 learned
3 lesson
1 liar
2 libel
17 Lord
1 mamma
2 marble
1 mine
4 minister
2 new
2 nice
1 old
1 page
1 poetry
25 pray
6 prayer
1 prayer book
5 prayers
5 preach
1 pretty
4 priest
1 prose
1 psalms
116 read
6 reading
4 religion
1 Sabbath
1 save
4 scripture
1 solemn
3 stories
4 story
7 study
11 Sunday
1 swear
1 sweet
4 teach
1 teaches
1 tells
5 Testament
1 text
3 think
3 true
3 truth
4 verse
5 verses
5 words
2 world
1 write

61. MILK

1 glass
1 goat
25 good
1 have
1 hot
1 ice
1 impure
1 ilk
2 kitty
3 like
9 liquid
1 little
1 maid
1 milked
1 milkman
1 nice
1 pail
1 painful
2 pure
1 sick
2 silk
1 song
26 sour
1 spill
1 sugar
1 swallow
25 sweet
1 toast
1 thin
4 warm
8 water
91 white

62. SHEEP

1 garden
4 goat
3 goats
1 good
3 grass
1 gun
1 has
1 have
1 heap
1 herbs
10 herd
1 herding
1 herdsman
1 here
1 kept
1 lady
79 lamb
1 lambskins
29 lambs
3 leap
1 like
1 little
1 live
1 lost
1 lot
1 lots
1 man
5 many
6 meadow
3 meat
2 milk
1 money
9 mutton
1 my
6 nice
1 old
3 paper
16 pasture
1 pet
5 play
1 poor
1 pretty
1 ram
1 range
2 run
1 sewing
3 shear
32 shepherd
1 shepherds
7 skin
1 slip
1 steak
1 stock
1 track
1 walk
1 walked
1 wash
57 white
411 wool
1 woollen
1 woolly

63. BATH

1 have
1 healthy
1 here
2 home
14 hot
1 house
1 person
1 pours
1 river
1 robe
4 room
3 take
1 toilet
4 took
6 towel
131 tub

3 bathing
1 bathroom
4 bathtub
1 bird
1 body
5 boys
1 boys
1 but

1 camp
192 clean

1 door
1 dress

1 fresh
1 feet
3 fire

1 girl
11 good
5 had
1 happy

1 last
1 like
7 little
1 lot

1 naked
1 naughty
1 neck
7 nice

1 run
20 Saturday
4 scrub
4 shower
1 sink
8 soap
1 splash
9 swim
3 swimming

1 wade
10 warm
143 wash
1 washing
1 washtub
295 water
1 week
2 yesterday

64. COTTAGE

1 age
1 bad
4 big
1 blotch
1 brown
3 bungalow
1 burnt
1 bay

1 carpet
1 chair
39 cheese
1 children
1 clean
1 comfortable
2 cot
6 country
5 cosy

1 cute
1 dirty
1 door

2 farm
1 father
1 funny

2 good
101 home
1 hot
4.5 house
9 hut
1 lady
117 lake
34 little

79 live
1 lived
1 lives
1 log

1 man
1 matey

1 neighbors
12 nice
1 paint
1 paper
1 plain
1 poor
3 porch
1 pretty

1 rain

1 red
1 rent
1 residence
1 river
1 roof
2 room
2 root
1 run

3 school
1 sea
1 shack
1 shanty
1 shelter
1 shoot
2 sleep
36 small
2 snug
3 stove
14 summer

1 swimming
2 take
3 village
4 warm
1 we
1 where
1 wife
2 window
1 women
17 wood
2 wooden
14 woods
1 work
1 yard

65. SWIFT

1 actor
3 air
3 arrow
11 auto
6 automobile

1 baby
5 ball
2 baseball
1 beat
3 bicycle
2 bird
1 birds
3 boat
1 boy
1 breath
1 bring
1 broom
1 bullet

1 can

2 care
1 car
3 cars
1 company
11 current

4 deer
1 drive

1 engine

1 falls
391 fast
7 feet
1 firehorses
1 fleet
8 fly
3 foot
1 fouted

4 go

1 goes
3 going

1 Hiawatha
124 horse
3 horses
1 hose
4 hurry

1 kick

1 lard
1 legs
2 lift

1 meal
1 motor
1 mouse

1 nest
1 nut

10 quick
1 quite

1 rabbit
11 race
1 raise
7 ran
1 read
4 reindeer
1 ride
1 rider
1 riding
1 ring
14 river
1 rough
1 round
302 run
13 runner
16 running
1 runs

1 Santa
1 see
1 skate
1 sled
1 slight
28 slow
4 speed
1 stream

1 thren
1 time
1 to
15 train

3 wagon
8 water
3 went
4 wind
1 work

1 you

66. BLUE

3 air
1 any
1 apron

1 had
1 bag
2 ball
2 balloon
1 bean flower
1 beautiful
1 beauty
1 bell
4 big
4 bird
3 black
1 blood
1 blossom

1 boy
1 bread
24 bright
1 brown

1 circus
1 clean
4 cloth
1 clothes
6 coat
318 color
1 crew

12 dark
1 dirty
1 draw
173 dress

6 flower
1 fly
1 forgetmenot

1 globe
1 good
1 goods
1 green

1 hard
4 hat
3 high
2 horn
9 house

1 I
3 ink

1 light blue
1 line

1 mark
1 match
1 mew

2 navy
3 nice

22 paint
6 paper
3 paste
1 pastry
10 pencil
2 picture
15 pretty
2 sad

1 sea
1 silver
1 sister
1 skirt
102 sky
2 stick
3 sticky
1 stocking
12 suit
1 sweater

6 true

1 very

1 violet

3 waist
3 water

| | | | | |
|-------------|-----------|----------|---------------------|-----------|
| 1 blow | 1 dresses | 1 it | 1 printing | 1 whistle |
| 1 blue bird | | | 1 purple | 1 wild |
| 1 blue jay | 1 egg | 4 jacket | | 34 wind |
| 6 bluing | 1 eyes | 2 jay | 21 red | 1 windy |
| 1 boat | | | 1 red, white & blue | 1 writing |
| 1 boo | 1 fair | 1 lake | | 1 yellow |
| 1 book | 1 fast | 1 lamp | 2 ribbon | |
| 1 box | 82 flag | 5 light | 1 round | |

67. HUNGRY

| | | | | |
|---------------|------------|------------|--------------|------------|
| 5 am | 1 cooky | 1 hear | 1 pangs | 1 table |
| 1 angry | | 3 home | 1 pantry | 1 taste |
| 3 appetite | 1 die | 1 horse | 1 peace | 1 tasty |
| 1 apple | 24 dinner | 1 house | 1 people | 1 terrible |
| 1 apples | 14 dog | 5 hunger | 1 person | 1 than |
| 3 ate | 1 dogs | | 1 pity | 1 thin |
| 1 awfully | 1 doughnut | 3 I | 1 plant | 1 thirst |
| | 11 drink | 2 is | 18 poor | 13 thirsty |
| 14 baby | 1 dry | 1 jam | 1 potato | 1 time |
| 2 bad | | | 2 potatoes | 3 tired |
| 1 bad feeling | 337 eat | | 1 rabbit | 1 too |
| 3 bear | 1 eatable | 1 lamb | 2 robin | 1 tramp |
| 3 beggar | 5 eating | 1 lion | | |
| 1 Belgian | 1 eats | 1 little | | 3 very |
| 1 belly | 3 empty | 1 lunch | 1 satisfied | |
| 2 bite | 1 eyes | | 1 school | 1 wait |
| 1 black | | 9 man | 1 sea | 6 want |
| 12 boy | 1 face | 1 meals | 12 sick | 1 wants |
| 2 boys | 1 faint | 20 meat | 1 sit | 2 wanting |
| 173 bread | 1 famine | 1 men | 1 small | 1 war |
| 1 breakfast | 1 feast | 1 milk | 1 sober | 1 warm |
| | 1 feed | 1 minstrel | 2 something | 1 was |
| 1 cake | 1 fight | 1 mouth | 1 starvation | 1 water |
| 1 candy | 55 food | | 47 starve | 1 weak |
| 2 cat | 1 fox | 1 need | 6 starved | 3 wolf |
| 2 chicken | | 1 neighbor | 44 starving | 1 woman |
| 2 children | 1 German | 3 noon | 3 stomach | 1 work |
| 2 coffee | 7 girl | 2 nothing | 1 sugar | |
| 1 cold | 9 good | 4 now | 1 supper | 1 yellow |
| 1 cook | | | 1 sweet | 2 yes |
| 1 cookies | 2 head | 1 oatmeal | | 1 you |

68. PRIEST

| | | | | |
|--------------|-----------|--------------|-------------|------------|
| 4 altar | 1 death | 1 kill him | 57 preacher | 1 speaker |
| | 1 demon | | 1 preaches | 1 speaking |
| 1 back | 1 died | 15 learn | 3 preaching | 3 speech |
| 1 baptize | | 1 letter | | 16 Sunday |
| 1 beads | 1 east | | 1 read | 1 Swede |
| 21 Bible | | 69 man | 2 reading | |
| 1 big | 8 father | 1 marriage | 1 religion | 2 talk |
| 1 bishop | 1 flock | 5 married | 1 religious | 1 talks |
| 1 blackcloak | 1 fold | 2 marry | 1 reverend | 4 teach |
| 2 book | 1 folded | 12 mass | 1 rich | 2 teacher |
| 1 brother | 1 friar | 2 master | 1 robe | 1 tear |
| 1 bunk | | 168 minister | 1 robes | 1 there |
| | 25 God | | | 1 think |
| 1 candles | 27 good | 3 paper | 1 said | |
| 1 carpet | 9 gospel | 9 pastor | 1 school | 1 wagon |
| 1 cathedral | 1 great | 1 people | 4 sermon | 1 ward |
| 11 Catholic | | 17 pray | 1 serves | 2 wedding |
| 1 Christ | 1 healthy | 1 prayers | 1 service | 1 where |
| 271 church | 13 heaven | 2 praying | 1 shirt | 1 white |
| 1 church man | 5 holy | 2 prays | 1 singing | 1 wife |
| 1 collar | 1 home | 41 preach | 5 speak | 1 worship |

69. OCEAN

| | | | | |
|-------------|-----------|------------|---------|-----------|
| 2 across | 2 fish | 1 over | 1 salty | 1 the |
| 7 Atlantic | 1 flow | | 1 saw | 1 Titanic |
| | | 3 Pacific | 88 sea | |
| 2 beach | 1 good | 5 pearls | 1 seas | 1 war |
| 1 beautiful | | 1 pilgrims | 1 seal | 413 water |
| 42 big | 1 hear | | 1 seals | 8 wave |
| 7 blue | | 1 riches | 1 shell | 88 waves |
| 34 boat | 1 iceberg | 1 ride | 43 ship | 1 wavy |

| | | | | |
|-----------|------------|-------------|-------------|----------|
| 20 boats | 13 lake | 36 river | 36 ships | 1 were |
| 1 calm | 1 lands | 3 roar | 1 shore | 1 whale |
| 1 coast | 4 large | 5 rough | 1 sky | 1 whales |
| | 4 liner | 1 round | 1 sponge | 1 wharf |
| 23 deep | | 3 sail | 1 steamboat | 35 wide |
| 1 dip | 1 New York | 1 sails | 11 steamer | 1 wild |
| 14 drown | | 6 salt | 1 steamship | |
| 1 drowned | 1 on | 1 saltwater | 1 swift | |
| | | | 2 swim | |

70. HEAD

| | | | | |
|------------|------------|------------|------------|------------|
| 22 ache | 1 dead | 3 headache | 12 nose | 1 sore |
| 13 aches | 1 dog | 2 hear | 1 nut | 1 sparrow |
| 1 aching | 3 doll | 1 hog | | |
| 1 army | | 2 horse | 3 off | 5 talk |
| | 2 ear | 1 human | 1 on | 1 talker |
| 1 band | 2 ears | | | 2 teeth |
| 1 ball | 1 cat | 1 it | 1 part | 1 there |
| 1 bed | 1 elephant | | 3 people | 59 think |
| 15 big | 16 eye | 2 large | 5 person | 2 thinking |
| 1 bird | 91 eyes | 5 lead | | 1 thinks |
| 1 black | | 2 learn | 1 quarters | 6 thought |
| 1 blood | 42 face | 1 light | | 1 top |
| 26 body | 1 fat | 2 listen | 1 red | |
| 1 bone | 1 fill | 4 little | 1 rough | 1 up |
| 3 boy | 1 fish | | 58 round | 3 use |
| 2 braid | 1 fist | 1 made | | |
| 25 brain | 9 forehead | 10 man | 1 sausage | 1 veins |
| 137 brains | 1 funny | 3 memory | 3 scalp | |
| 1 bumps | | 46 mind | 1 school | 1 warm |
| | 1 girl | 1 mine | 8 see | 1 were |
| 6 cabbage | 5 good | 9 mouth | 2 sense | 1 white |
| 2 captain | 1 grant | 1 move | 1 sings | |
| 1 chest | | 1 my | 14 skull | 1 yours |
| 8 chicken | 203 hair | 2 nails | 1 sleep | |
| 1 clean | 1 hang | 2 neck | 9 small | 1 zebra |
| 1 cloth | 3 hard | 1 nerve | 1 smiles | |
| 1 comb | 12 hat | 1 nerves | 1 soft | |
| 3 cut | 1 hats | | | |

71. STOVE

| | | | | |
|-----------|------------|-----------|----------|----------|
| 1 bake | 3 cooking | 1 hair | 1 log | 1 rat |
| 1 baking | | 3 hard | 1 love | 1 red |
| 5 big | 1 damper | 117 heat | | 1 rusty |
| 37 black | | 3 heater | 1 match | |
| 1 blue | 1 exploded | 1 home | 1 move | 2 smoke |
| 1 broken | | 200 hot | | |
| 103 burn | 1 fill | 1 house | 1 nice | 8 use |
| 8 burning | 164 fire | | 1 nickel | |
| 6 burns | 2 fry | 45 iron | | 127 warm |
| | | | 2 oven | 8 warmth |
| 1 chimney | 1 gas | 1 kitchen | | 1 went |
| 16 coal | 1 girl | | 1 paper | 5 winter |
| 1 coke | 1 going | 2 legs | 12 pipe | 11 wood |
| 7 cold | 1 good | 1 lid | 6 polish | 1 world |
| 62 cook | | 1 little | | |
| | | | 5 range | |

72. LONG

| | | | | |
|----------|------------|------------|------------|-------------|
| 2 ago | 1 engine | 1 lanky | 1 read | 2 table |
| 1 arrow | 1 eraser | 7 large | 12 ribbon | 1 tail |
| 4 away | 1 every | 7 legs | 6 ride | 1 tale |
| | | 25 length | 9 river | 33 tall |
| 1 bad | 1 face | 2 lengthy | 4 road | 1 telephone |
| 55 big | 90 far | 1 lesson | 4 room | 1 ten |
| 1 bird | 1 feet | 3 line | 26 rope | 2 thin |
| 1 black | 1 field | 1 log | 1 rough | 3 thing |
| 1 blaze | 1 figure | 1 lonesome | 1 rug | 1 thong |
| 9 block | 1 find | 2 longer | 6 ruler | 1 thought |
| 11 board | 1 finger | 1 long for | | 1 thread |
| 4 boat | 23 fingers | 1 lots | 1 sad | 41 time |
| | 1 fish | | 3 school | 1 Tipperary |
| 1 cabin | 1 flat | 7 man | 1 see | 2 tiresome |
| 2 cakes | 1 floor | 1 mane | 1 shirt | 5 train |
| 1 car | 1 flower | 1 measure | 45 short | 1 tree |
| 1 cat | 1 flown | 9 mile | 3 shout | 2 trip |
| 1 chain | | 2 miles | 2 sidewalk | |

| | | | | |
|------------|----------|-----------|------------|-----------|
| 1 change | 1 go | 1 mirrors | 6 skinny | 1 verse |
| 1 child | 1 goods | 31 skirt | 1 skirts | 4 very |
| 5 city | 75 grass | 2 narrow | 13 slender | 1 visit |
| 1 cloth | 5 green | 2 neck | 1 slim | 1 wagon |
| 10 coat | 22 hair | 1 night | 2 slow | 8 wait |
| 1 color | 1 hall | 1 noon | 1 small | 1 waiting |
| 2 cord | 1 hard | 2 nose | 3 snake | 5 walk |
| 1 corn | 1 he | 1 oblong | 1 some | 1 wall |
| 1 cot | 1 heavy | 1 off | 1 sort | 1 want |
| 1 court | 6 high | 1 page | 1 spring | 31 way |
| 1 cut | 1 hollow | 2 paper | 4 stay | 1 while |
| 1 daddy | 1 horse | 1 path | 21 stick | 12 wide |
| 3 day | 3 hour | 7 pencil | 2 store | 4 width |
| 1 deep | 3 hours | 2 person | 4 stork | 2 wish |
| 1 deak | 2 house | 1 piece | 6 story | 1 wood |
| 6 distance | 1 it | 2 pipe | 3 straight | 2 word |
| 1 distant | 1 lake | 8 pole | 1 stream | 1 worm |
| 1 door | 1 lane | 1 queer | 2 street | |
| 42 dress | | | 48 string | 3 yard |
| | | | 2 swing | 2 years |

73. GHOST

| | | | | |
|------------|---------------|-----------|-------------|----------------|
| 73 afraid | 3 fairy | 2 howling | 1 party | 2 silent |
| 1 angel | 1 fear | 1 image | 1 person | 8 skeleton |
| 1 animal | 1 figure. | 2 imagine | 18 play | 1 small |
| | 1 fool | | 1 post | 36 spirit |
| 6 bad | 1 foolish | 3 killed | 1 pretty | 8 spook |
| 1 believe | 3 fright | | 2 roast | 1 spooky |
| 1 big | 1 frighten | 2 large | 6 robber | 1 story |
| 1 bind | 35 frightened | 24 lights | 3 robbers | 1 teacher |
| 1 bird | 1 fun | 1 like | 4 run | 2 Thanksgiving |
| 5 black | 5 funny | 1 look | 1 saw | 1 think |
| 1 blanket | 1 good-night | 41 man | 47 scare | 1 true |
| 1 bogies | | 6 mean | 5 scarecrow | 2 vision |
| 1 cemetery | 88 Hallowe'en | 2 men | 39 scared | |
| 1 creeps | 1 haunt | 2 moon | 1 scares | 364 white |
| | 1 haunted | 2 most | 1 see | 1 wig |
| 28 dark | 1 head | 4 nice | 2 shade | 4 witch |
| 23 dead | 1 holler | 6 night | 7 shadow | 1 woman |
| 1 devil | 1 horrible | 1 none | 20 sheet | 2 wood |
| 1 die | 1 horrid | 2 nothing | 1 show | |
| | 1 host | | 2 sight | 1 you |
| 1 faces | 2 house | | | |

74. WHISKEY

| | | | | |
|-------------|-------------|---------------|------------|---------------|
| 1 abuse | 1 bum | 1 good | 9 man | 1 rum |
| 1 acid | 1 burns | 1 glass | 1 mean | 2 rye |
| 15 alcohol | | | 1 medicine | |
| 1 angry | 1 corn | 8 had | 31 men | 57 saloon |
| | | 1 hard | 1 much | 9 sick |
| 41 bad | 3 dope | 1 hog | | 10 strong |
| 1 barley | 7 drank | 1 home | 1 name | 1 tantalizing |
| 1 barrel | 279 drink | 1 hot | 2 nasty | 7 taste |
| 108 beer | 1 drinker | 5 intoxicated | 2 nose | 1 temperance |
| 2 bitter | 12 drinking | 1 judge | 1 parents | 1 tiger |
| 1 blind pig | 2 drinks | 1 like | 1 play | 1 tonic |
| 1 blue | 138 drunk | 24 liquid | 1 poison | |
| 9 booze | 13 drunkard | 97 liquor | 1 poor | 8 water |
| 1 boozer | 1 drunken | 1 liquors | 1 rat | 1 wet |
| 28 bottle | 1 fellow | | 1 red | 1 wild |
| 19 brandy | 1 firewater | | | 7 wine |
| 5 brown | | | | |

75. CHILD

| | | | | |
|------------|---------|----------|-----------|-------------|
| 1 afraid | 1 dear | 1 hurt | 1 name | 1 sickly |
| 1 age | 1 died | 3 infant | 1 nature | 1 sister |
| | 6 dress | | 1 naughty | 1 six years |
| 185 baby | 1 ear | 5 kid | 7 nice | 1 sleep |
| 18 bad | 2 eat | 1 kiss | 1 niece | 45 small |
| 11 big | 1 eyes | | 1 nurse | 1 smart |
| 1 birth | | 1 large | | 1 spirit |
| 26 born | 1 feet | 2 legs | 1 old | 1 steal |
| 90 boy | 1 fight | 1 lild | 1 people | 1 stocking |
| 1 brothers | | | 15 person | 3 stork |

| | | | | |
|-------------|----------|------------|-----------|----------|
| 8 candy | 5 friend | 48 little | 1 pile | 1 strong |
| 94 children | 1 get | 3 lost | 36 play | 1 sturdy |
| 1 Christ | 93 girl | 8 love | 2 playing | 1 sweet |
| 5 clean | 78 good | 1 mad | 4 plays | 1 take |
| 13 clothes | 3 hair | 1 mamma | 11 poor | 1 that |
| 1 clothing | 2 hand | 5 man | 1 pretty | 1 walk |
| 1 cold | 1 hands | 1 meal | 1 pupil | 1 warm |
| 1 creature | 1 happy | 2 mean | 1 ribbon | 1 well |
| 1 cries | 1 hat | 1 milk | 1 ride | 1 white |
| 21 cry | 2 head | 1 mind | 12 run | 1 white |
| 1 crying | 1 hid | 1 mine | 2 running | 1 won't |
| 5 cute | 1 hood | 1 mischief | 2 runs | |
| | 1 house | 26 mother | 12 school | 3 young |
| 1 dance | 1 human | 1 mothers | 1 scold | |
| 1 daughter | 1 humor | 4 myself | 1 sick | |
| 1 dead | | | | |

76. FRIEND

| | | | | |
|----------------|--------------|------------|-------------|--------------|
| 1 acquaintance | 2 dead | 2 he | 1 mates | 1 red |
| 1 acquainted | 1 dear | 1 help | 1 mean | 2 relation |
| 1 afraid | 1 death | 1 hend | 1 meet | 4 relative |
| 1 Alice | 2 dog | 1 him | 3 mine | 1 rend |
| 1 America | | 1 horse | 1 money | 1 ring |
| 1 Annie | 1 Edith | 1 hurt | 4 mother | 1 Roy |
| 1 August | 1 Edna | 1 Ida | 1 move | |
| 4 aunt | 1 Elson | 1 invite | 1 Mrs. | 3 school |
| | 4 enemy | 1 Irish | 6 my | 4 schoolmate |
| 2 bad | 1 Evelyn | 1 John | 1 name | 1 see |
| 1 bend | 1 everyone | | 22 neighbor | 1 she |
| 19 best | | 1 killed | 2 nephew | 1 ship |
| 112 boy | 1 father | 6 kind | 13 nice | 1 sick |
| 3 boys | 1 fellow | 2 kindness | 1 no | 1 sing |
| 1 Brady | 3 fight | 8 know | 1 nobody | 1 skin |
| 3 brother | 1 fire | | 1 now | 1 smoke |
| | 1 foe | | | 1 some one |
| 1 Carl | 14 friends | 11 lady | 1 over | 1 this |
| 3 children | 4 friendship | 2 lend | | |
| 1 chick | 2 fun | 6 like | 1 pal | 1 visit |
| 98 chum | 1 gentleman | 1 little | 2 pals | 1 visiting |
| 1 clean | 118 girl | 1 Louise | 1 park | |
| 1 Clifford | 1 girls | 23 love | 2 partner | 1 walk |
| 1 Clint | 2 go | 1 loved | 15 people | 2 war |
| 10 companion | 1 gone | 1 lovely | 25 person | 1 who |
| 5 company | 94 good | | 35 play | 2 with |
| 2 comrade | 1 got | 1 mad | 2 playing | 1 women |
| 1 country | | 8 man | 35 playmate | |
| 1 course | 1 happiness | 4 marry | 1 playmates | 1 years |
| 66 cousin | 10 happy | 1 Mary | 1 plenty | 8 you |
| 1 cousins | 8 have | 55 mate | 1 pretty | 1 your |
| 1 cross | | | | 2 yours |
| | | | 1 Rea | |

77. HAMMER

| | | | | |
|--------------|-----------|-----------|-------------|------------|
| 1 axe | 1 drive | 2 knock | 1 papa's | 4 strong |
| 1 baby | 37 finger | 1 lead | 1 pieces | 1 swings |
| 1 beat | | 6 little | 288 pound | |
| 1 big | 1 good | 5 loud | 1 pounded | 1 tack |
| 1 blacks | | 1 lumber | 1 pounder | 11 tool |
| 1 blacksmith | 1 hand | | 28 potnding | 3 tools |
| 1 board | 9 handle | 1 make | 4 pounds | |
| 1 broken | 1 happy | 1 manner | | 2 use |
| 1 build | 20 hard | 1 man | 1 rammer | 1 we |
| 2 building | 3 hatchet | | 1 rap | 7 wood |
| 1 busted | 1 have | 218 nail | 1 saw | 2 work |
| | 1 head | 186 nails | 1 slam | 1 works |
| 1 carpenter | 1 heavy | 1 new | 2 sledge | 1 workshop |
| 5 chop | 32 hit | 6 noise | 1 smash | |
| 1 club | 4 house | 1 noisy | 2 sore | 1 your |
| 1 crack | 2 hurt | 2 nuts | 1 square | |
| | | | 1 steel | |
| | 62 iron | 1 ouch | 1 strike | |

78. THIRSTY

| | | | | |
|-----------|------------|------------|------------|----------|
| 2 am | 3 crow | 9 girl | 11 milk | 1 thirst |
| 4 are | 3 cup | 1 going | 1 mother | 1 throat |
| 1 baby | 1 dog | 1 home | 3 parched | 4 tired |
| 3 beer | 4 drank | 1 horse | 1 pop | 1 too |
| 1 burning | 364 drink | 1 hot | 1 pump | 1 very |
| 2 camel | 1 drinker | 17 hungry | 4 quenched | 8 want |
| 2 cat | 1 drinking | 1 lemonade | 1 quenched | 1 wash |
| 3 child | 132 dry | 1 lonesome | 377 water | 2 weak |
| 1 choke | 1 filled | 1 mad | 4 salt | 1 well |
| 3 coffee | 1 food | 6 man | 1 starve | 2 women |
| 1 cooking | | | | 1 would |

79. CITY

| | | | | |
|--------------|------------|-----------------|-------------|-------------|
| 1 air | 1 corner | 1 I | 4 name | 27 state |
| 1 automobile | 3 council | 1 inhabitants | 2 New York | 5 store |
| 3 beautiful | 86 country | 1 it | 2 noise | 12 stores |
| 1 Berlin | 1 crowd | 1 July | 1 oblong | 1 story |
| 124 big | 1 dark | 1 lady | 1 old | 2 St. Paul |
| 4 block | 5 dirt | 4 lamp | 1 Paris | 12 street |
| 7 blocks | 10 down | 5 land | 3 park | 5 streetcar |
| 2 building | 1 dust | 40 large | 1 paving | 2 streets |
| 5 buildings | 1 eat | 2 lighted | 44 people | 1 table |
| 1 burned | 1 folk | 1 lights | 1 place | 1 tired |
| 1 burning | 2 fun | 1 like | 1 president | 1 Toledo |
| 2 burnt | 2 go. | 1 line | 1 rat | 110 town |
| 1 canal | 1 going | 2 little | 1 rest | 1 Turkey |
| 2 capital | 3 good | 1 lity | 1 resting | 1 United |
| 2 car | 1 hill | 50 live | 1 roads | 2 U. S. |
| 2 cat | 22 home | 2 lived | 2 rocks | 2 village |
| 11 chair | 2 horse | 1 lone | 2 seat | 1 visit |
| 3 cheer | 1 hospital | 1 made | 2 seated | 1 wagon |
| 1 church | 15 house | 8 man | 1 sewer | 1 wagons |
| 20 citizen | 14 houses | 2 men | 1 sidewalk | 3 water |
| 4 clean | | 218 Minneapolis | 1 sit | 1 we |
| 6 clothes | | 10 Minnesota | | |
| 1 coming | | | | |

80. SQUARE

| | | | | |
|--------------|-----------------|--------------|-------------|---------------|
| 1 acre | 83 corner | 1 hole | 2 not | 1 school |
| 1 arithmetic | 6 corners | 23 house | 2 not round | 1 schoolhouse |
| 1 back | 1 cube | 2 ice | 95 oblong | 8 shape |
| 1 bear | 1 deep | 1 in | 1 one | 1 sharp |
| 9 big | 4 desk | 29 inch | 28 paper | 1 shoulders |
| 1 bills | 1 door | 3 inches | 4 park | 2 sides |
| 3 blackboard | 1 draw | 1 in't | 1 parts | 2 sidewalk |
| 300 block | 4 edges | 2 Jackson | 1 perfect | 1 small |
| 4 blocks | 2 equal | 11 large | 4 picture | 1 so |
| 7 board | 1 eraser | 1 length | 2 piece | 1 soldiers |
| 15 book | 20 even | 1 lengthwise | 4 place | 1 stand |
| 80 box | 7 exact | 1 letter | 1 plank | 1 steel |
| 1 boy | 1 feet | 1 level | 1 plate | 1 steeple |
| 4 brick | 1 figure | 4 line | 3 play | 30 straight |
| 1 Bridge | 3 flat | 1 lines | 1 plot | 1 sugar |
| 1 building | 2 floor | 1 log | 1 public | 5 table |
| 1 cake | 1 foot | 17 long | 1 right | 1 that |
| 1 cakes | 3 four | 3 lot | 4 ring | 6 thing |
| 1 candy | 1 four-cornered | 1 make | 1 rock | 1 tool |
| 1 cards | 1 fraction | 1 map | 1 rod | 1 town |
| 1 case | 2 game | 1 market | 6 room | 1 triangle |
| 1 carpet | 1 goods | 1 mats | 35 round | 2 walk |
| 1 cell | 1 handkerchief | 1 nice | 3 rug | 1 while |
| 2 chair | | | 8 ruler | 12 wide |
| 2 circle | | | | 3 wood |
| 1 cloth | | | | 5 yard |

81. BUTTER

| | | | | |
|--------------|-----------|----------|----------|------------|
| 1 bad | 9 dairy | 1 goat | 1 love | 1 salt |
| 467 bread | 1 dandy | 37 good | 1 made | 1 salty |
| 1 brown | 1 dear | 5 grease | 1 man | 1 scatter |
| 10 butterfly | 3 dish | 1 greasy | 3 melt | 5 smear |
| 1 but | 122 eat | 2 hard | 47 milk | 8 soft |
| 1 cheap | 2 eatable | 8 high | 1 mutton | 5 spread |
| 13 cheese | 1 egg | 1 house | 1 nice | 1 square |
| 18 churn | 1 eggs | 1 I | 1 on | 3 store |
| 15 cow | 1 farmer | 1 knife | 1 pail | 4 sweet |
| 5 cows | 19 food | 1 lard | 1 pound | 1 syrup |
| 30 cream | 6 fresh | 1 like | | 1 taste |
| 5 creamery | | | | 1 where |
| 1 cubes | | | | 117 yellow |

82. DOCTOR

| | | | | |
|--------------|-----------|-----------|--------------|-------------|
| 1 auto | 1 cough | 15 health | 132 man | 1 satchel |
| 7 baby | 24 cure | 10 help | 136 medicine | 1 scar |
| 1 bad | 2 dentist | 1 helper | 2 men | 448 sick |
| 1 bed | 1 did | 1 helpman | 2 mother | 34 sickness |
| 9 bill | 2 examine | 5 helps | 1 needed | 3 sore |
| 1 bottle | 1 family | 3 home | 1 nice | 1 tag day |
| 1 brother | 1 father | 4 ill | 13 nurse | 1 teeth |
| 1 call | 1 find | 4 illness | 1 office | 1 tools |
| 6 care | 40 good | 1 Johnson | 6 physician | 1 treat |
| 3 case | 7 heal | 1 lawyer | 1 pills | 1 treatment |
| 1 cauteriser | 1 healer | 1 lay | 1 queer | 4 trouble |
| 1 child | 1 heals | 1 learn | 1 rain | 1 visit |
| 1 colds | | 1 major | 3 rich | 1 was |
| 6 come | | 1 mamma | | 30 well |
| 2 coming | | | | |

83. LOUD

| | | | | |
|------------|-------------|-----------|-----------|------------|
| 1 able | 3 dog | 1 I | 1 rags | 1 spelling |
| 1 baby | 1 door | 1 it | 1 read | 1 steps |
| 1 bad | 1 drum | 3 laugh | 1 reading | 1 still |
| 2 bang | 1 ears | 1 laughed | 1 recite | 1 stormy |
| 2 bark | 7 echo | 1 like | 1 record | 1 swallow |
| 1 bear | 1 echoes | 7 long | 6 ring | 1 swear |
| 3 bell | 1 every | 1 louder | 1 roud | 1 sweet |
| 1 blast | 8 far | 5 loudly | 1 rough | 130 talk |
| 1 boy | 1 fast | 8 low | 15 scream | 11 talking |
| 1 boys | 1 going | 1 man | 1 sharp | 1 teacher |
| 1 bugle | 1 gun | 1 men | 1 shot | 1 there |
| 28 call | 1 hammer | 1 mouth | 21 shout | 1 tone |
| 1 called | 12 hard | 1 moving | 1 shouted | 5 train |
| 1 calling | 7 harsh | 4 music | 3 shriek | 41 voice |
| 1 cannon | 28 hear | 201 noise | 3 shrill | 1 walk |
| 1 cause | 1 heard | 11 noisy | 1 silent | 12 whistle |
| 5 child | 1 hoarse | 1 not | 20 sing | 1 word |
| 1 children | 190 holler | 1 peal | 3 sings | 11 yell |
| 1 coarse | 3 hollering | 1 peals | 13 soft | 8 song |
| 1 color | 1 home | 4 piano | 1 softly | 9 sound |
| 1 cried | 6 horn | 1 plain | 8 song | 22 speak |
| 29 cry | 3 howl | 1 pound | 9 sound | 2 speech |
| 1 crying | 1 howling | 1 proud | 22 speak | |
| 5 deaf | | | | |

84. THIEF

| | | | | |
|------------|----------|----------|----------|-------------|
| 2 arrested | 1 fight | 1 lead | 4 night | 10 stealing |
| 19 bad | 1 filled | 1 leaf | 1 noisy | 8 steals |
| 1 be | 1 food | 2 legs | 1 oats | 28 stole |
| 1 beg | 1 fright | 2 hat | 1 lie | 20 stolen |
| 1 blue | 1 fun | 1 light | 2 police | 2 store |
| 1 boon | 2 girl | 2 locket | 6 prison | 2 strong |
| 1 boot | 8 gold | 1 long | | 3 suit |

| | | | | |
|------------|---------|----------|--------------|----------|
| 1 booster | 1 good | | 5 ring | 9 take |
| 1 bum | 11 gun | 1 mail | 21 rob | 1 theft |
| 64 burglar | | 1 mamma | 229 robber | 1 there |
| | 1 hat | 30 man | 4 robbers | 5 tramp |
| 23 caught | 1 he | 1 me | 6 robs | |
| 1 chickens | 3 hide | 6 mean | 5 run | 1 unkind |
| 1 cow | 9 house | 1 meat | | 1 useful |
| 1 coward | | 63 money | 1 silverware | |
| | 1 jail | 1 mouse | 1 sold | 1 wagon |
| 2 dog | | 1 murder | 1 sore | 1 walk |
| | 4 kill | | 320 steal | 3 watch |
| 1 feet | 1 knife | 1 nice | 10 stealer | 1 white |
| | | | | 1 women |

85. LION

| | | | | |
|------------|------------|------------|-----------|------------|
| 4 afraid | 1 cat | 13 forest | 1 jumps | 1 purr |
| 1 Africa | 1 catch | 1 fright | | |
| 205 animal | 1 cave | 1 fur | 15 kill | 52 roar |
| 3 anger | 1 claws | | 2 kills | 3 roars |
| 7 angry | 1 close | 5 good | 27 king | 3 rough |
| 1 awful | 4 creature | 7 growl | | |
| | | 1 growling | 16 large | 2 skin |
| 2 bad | 1 danger | 5 growls | 3 legs | 1 small |
| 1 bay | 1 David | 1 gun | 1 lift | 1 story |
| 5 bear | | | 3 live | 1 string |
| 95 beast | 8 den | 1 have | 1 long | 16 strong |
| 83 big | 1 desert | 2 hair | | |
| 1 bind | 1 dog | 1 he | 14 mad | 2 tail |
| 18 bite | | 1 head | 4 man | 1 tame |
| 1 biter | 109 eat | 1 horse | 8 mane | 12 teeth |
| 1 bit | 3 cats | 1 huge | 1 many | 1 terrible |
| 1 bones | | 1 hunger | 7 mean | 13 tiger |
| 1 boy | 1 fear | 4 hungry | 1 monster | |
| 3 brave | 1 feet | | 1 mouse | 7 wild |
| 1 bread | 119 fierce | 1 insect | 5 mouth | 8 woods |
| | 2 fight | | | 1 wool |
| 8 cage | 1 fool | 16 jungle | 1 prance | 1 yellow |

86. JOY

| | | | | |
|---------------|------------|--------------|-------------|------------|
| 3 army | 2 enjoy | 25 happiness | 3 merry | 3 sad |
| 3 automobile | | 260 happy | 4 mother | 1 sadness |
| | 1 father | 3 heart | | 1 school |
| 3 baby | 1 feel | 6 home | 1 naughty | 1 show |
| 1 birth | 1 fest | 1 honor | 1 new | 1 skating |
| 6 boy | 4 fine | | 28 nice | 1 song |
| 1 boys | 1 full | 2 jokes | | 1 sorry |
| 3 bring | 182 fun | 2 jolly | 1 park | 1 sprang |
| | 3 funny | 1 joyful | 5 party | |
| 1 cake | | 1 joys | 1 passed | 1 teeth |
| 1 cheer | 1 game | 1 jump | 1 piano | 1 tickling |
| 2 child | 2 girl | | 49 play | 2 time |
| 2 children | 203 glad | 25 laugh | 2 playful | 1 toy |
| 45 Christmas | 2 gladly | 2 laughing | 1 playing | 1 train |
| 1 clap | 7 gladness | 11 laughter | 6 pleasure | 1 trains |
| 1 comfortable | 1 glee | 1 life | 1 pretty | |
| 1 company | 2 going | 2 like | | 1 way |
| 1 crazy | 27 good | 3 love | 1 rejoice | 1 worry |
| | | 1 loving | 1 rejoicing | |
| 2 dance | 1 ha ha | 4 man | 3 ride | |
| 1 doing | 1 happily | | 2 riding | |

87. BED

| | | | | |
|------------|----------|------------|------------|------------|
| 3 asleep | 1 father | 2 laying | 2 post | 39 soft |
| | 1 fell | 1 lazy | 1 potatoes | 2 spread |
| 8 bedding | 1 fool | 1 leg | | 4 springs |
| 1 big | | 1 legs | 8 quilt | 1 standing |
| 6 blanket | 2 go | 10 lie | | 6 supper |
| 1 bought | 1 going | 1 like | 17 rest | 1 sweat |
| 1 brass | 2 good | 1 little | 5 resting | |
| 1 broke | | 1 lying | 8 room | 1 time |
| 1 buy | 1 hard | | 1 rough | 3 tired |
| | 1 head | 1 made | | 1 to |
| 14 clothes | 1 home | 3 make | 6 sheet | |
| 7 comfort | | 9 mattress | 22 sick | 10 warm |

| | | | | |
|----------|-----------|-------------|-------------|----------|
| 1 couch | 12 iron | 3 nice | 453 sleep | 1 well |
| 12 cover | | 106 night | 1 sleeper | 2 went |
| 3 covers | 1 keyhole | 4 nightgown | 16 sleeping | 2 white |
| | | | 9 sleepy | 1 wooden |
| 2 down | 1 lady | 25 pillow | 6 slept | |
| 4 dream | 109 lay | | 3 small | |

88. HEAVY

| | | | | |
|----------|----------|-----------|------------|------------|
| 1 animal | 1 do | 213 iron | 1 no | 12 stove |
| 1 ball | 1 dog | 1 is | | 20 strong |
| 3 baby | 2 doll | 1 it | 3 pail | 1 sunk |
| 1 barrel | 1 drop | | 1 paper | |
| 4 bed | 1 engine | 1 labor | 2 papers | 2 thick |
| 37 big | 1 every | 22 large | 2 potatoes | 1 thing |
| 3 blocks | | 2 lazy | 2 pound | 4 things |
| 2 hoards | 1 fall | 35 lead | | 1 this |
| 4 book | 1 fat | 1 leaves | 1 quilt | 1 tight |
| 12 box | 1 father | 36 lift | | 5 tired |
| 6 boy | 1 flour | 5 lifting | 1 rains | 2 tiresome |
| 1 bundle | 1 full | 54 light | 19 rock | 1 too |
| 5 burden | | 1 little | 1 rocks | 1 tree |
| | 3 gold | 72 load | | 3 trunk |
| 1 can't | 1 goods | 2 loaded | 1 sack | |
| 36 carry | 1 guilt | 1 loads | 1 salt | 6 very |
| 1 case | | 1 loan | 1 sister | |
| 6 chain | 5 hammer | 1 log | 1 sledge | 7 wagon |
| 1 chair | 178 hard | 1 look | 1 small | 1 water |
| 1 cloth | 3 head | 1 lot | 1 soft | 1 weak |
| 6 coal | 1 heaven | 4 lumber | 1 steel | 1 weigh |
| 1 cover | 1 heft | 1 lunch | 1 steep | 39 weight |
| | 3 house | | 1 stick | 1 were |
| 1 desk | 1 hurt | 4 man | 32 stone | 10 wood |
| | | | 1 stones | 1 work |
| | | | | 1 world |

89. TOBACCO

| | | | | |
|--------------|-----------|--------------|-----------------|------------|
| 1 America | 1 don't | 3 like | 1 Prince Albert | 18 snuff |
| 2 awful | | | | 1 so |
| | 1 eat | 28 man | 2 raise | 20 spit |
| 7 bad | 13 father | 10 men | 1 red | 1 squeal |
| 1 bag | | | 1 rug | 5 store |
| 6 bitter | 1 good | 3 nasty | 1 ruin | 12 strong |
| 1 blacksmith | 1 grew | 1 naughty | 1 ruins life | 1 sweet |
| 6 box | | 2 opium | | |
| 8 brown | 1 habit | | 1 sick | 1 use |
| | 1 hard | 70 pipe | 1 slow | |
| 1 can | 1 harm | 2 pipes | 1 smith | 1 Virginia |
| 214 chew | 1 honor | 4 plant | 466 smoke | |
| 7 chewing | | 5 plantation | 3 smoked | 1 weeds |
| 2 cigar | 1 Leader | 1 pledge | 1 smokers | |
| 4 cigarette | 2 leaf | 1 pouch | 2 smokes | |
| 5 cigars | 7 leaves | 3 poison | 28 smoking | |
| 1 climax | | | | |

90. BABY

| | | | | |
|------------|-----------|------------|-----------|----------|
| 1 alive | 2 crib | 9 girl | 55 milk | 1 school |
| 3 asleep | 1 cried | 1 go | 22 mother | 3 sick |
| | 15 cries | 6 good | | 5 sister |
| 1 bad | 119 cry | 3 growing | 1 name | 20 sleep |
| 1 bakery | 22 crying | | 4 new | 90 small |
| 1 baptism | 14 cute | 1 hands | 11 nice | 1 smiled |
| 1 bare | | 2 happy | 1 nickel | 1 soul |
| 1 bath | 2 darling | 1 have | 21 night | 40 stork |
| 1 bed | 4 dear | 1 hear | 1 nipple | 11 sweet |
| 1 big | 1 die | 1 heel | 1 nose | |
| 1 birds | 1 doctor | 1 helpless | 6 nurse | 14 tiny |
| 1 blanket | 2 doll | | 4 nursey | 2 toes |
| 35 born | 1 dream | 20 infant | | 1 toys |
| 7 bottle | 2 dress | 1 it | 1 out | 1 tub |
| 31 boy | 1 drinks | | | |
| 1 brother | 1 drive | 2 joy | 1 people | 1 we |
| 2 buggy | | | 3 person | 1 well |
| | 1 ears | 1 kiss | 6 play | 1 woman |
| 4 care | 1 case | 1 kitten | 1 playing | |
| 4 carriage | 1 eat | 3 lady | 5 pretty | 1 young |

| | | | | |
|------------|---------|-----------|-----------|-------------|
| 172 child | 9 eyes | 1 legs | | 1 youngling |
| 17 cradle | | 97 little | 3 rattle | 1 youngster |
| 3 crawl | 3 face | 4 love | 1 rock | |
| 2 crawling | 1 fat | | 1 running | |
| 3 creeps | 1 flesh | 1 Mabel | | |

91. MOON

| | | | | |
|------------|----------|-------------|------------|------------|
| 1 above | 1 eyes | 1 led | 1 red | 1 small |
| 1 at | | 155 light | 5 rise | 1 soon |
| 1 away | 13 face | 1 little | 2 rising | 1 spoon |
| | 1 far | 1 loom | 101 round | 9 star |
| 1 baby | 20 full | 4 look | | 10 stars |
| 4 ball | | 1 looks | 1 see | 1 still |
| 29 big | 1 ghost | | 1 setting | 6 summer |
| 115 bright | 3 gold | 6 man | 107 shine | 14 sun |
| | 1 gone | 1 moonlight | 26 shines | 1 sunlight |
| 3 clear | 1 good | 3 moves | 19 shining | 1 sunshiny |
| 2 cloud | | | 1 shiny | |
| 8 cold | 8 heaven | 7 nice | 1 show | 1 waxen |
| 1 color | 6 high | 128 night | 2 silver | 8 white |
| 3 cow | 1 hood | 2 noon | 2 silvery | 1 world |
| | 2 house | | 2 skies | |
| 10 dark | | 1 person | 103 sky | 8 yellow |
| | 4 lake | 3 pretty | 2 slow | |
| 1 earth | 2 large | | | |
| 3 evening | 1 leave | 1 quickly | | |

92. SCISSORS

| | | | | |
|-----------|------------|-----------|----------|-----------|
| 1 article | 32 cloth | 2 finger | 1 lizer | 11 sewing |
| | 1 clothes | | 1 long | 35 sharp |
| 1 bird | 1 coat | 1 glasses | | 8 shears |
| 1 brass | 802 cut | | 10 paper | 1 silk |
| 1 broke | 3 cuts | 1 have | 2 papers | 1 silver |
| 1 broken | 1 cutter | 1 knife | 1 safety | 5 small |
| | 48 cutting | | 1 screw | 4 steel |
| 1 cast | | 1 large | 15 sew | 1 waist |
| 1 clip | 1 dull | | | 1 work |

93. QUIET

| | | | | |
|---------------|-----------|-------------|------------|------------|
| 1 alone | 1 empty | 1 lightly | 3 old | 3 slumber |
| 4 asleep | | 1 likes | | 1 small |
| 1 awful | 1 feet | 13 listen | 1 peace | 1 smoke |
| | 1 fight | 2 lonely | 3 peaceful | 46 soft |
| 14 baby | | 1 lonesome | 1 person | 1 softly |
| 1 be | 11 girl | 11 loud | | 1 solemn |
| 1 bed | 1 glass | 4 low | 3 quiet | 14 sound |
| 13 boy | 20 good | | | 1 stepping |
| | | 1 man | 4 reading | 300 still |
| 1 calm | 3 ball | 1 me | 4 rest | 1 study |
| 1 cat | 1 happy | 22 mice | 3 resting | |
| 5 child | 1 hear | 1 mine | 1 robber | 3 talk |
| 7 children | 6 here | 37 mouse | 1 rock | 1 thought |
| 1 clean | 4 home | 1 music | 43 room | |
| 1 cold | 62 house | | | 4 very |
| 1 comfortable | | 1 nap | 4 school | |
| 1 country | 1 I | 1 napped | 3 sick | 1 wake |
| 1 cozy | 1 Indians | 6 nice | 5 silence | 1 whiakey |
| 1 creak | | 55 night | 4 silent | 1 woman |
| | 1 joy | 70 noise | 1 sit | |
| 1 day | | 6 noiseless | 72 sleep | 1 you |
| 1 dark | 1 keep | 18 noisy | 7 sleeping | |
| 1 dead | | 1 now | 22 sleepy | |
| 1 deserted | 4 light | | 1 slept | |

94. GREEN

| | | | | |
|-------------|-----------|------------|-----------|------------|
| 23 apple | 1 cotton | 15 hat | 1 meadow | 1 silky |
| 7 apples | 2 country | 9 horn | 3 meadows | 4 skirt |
| | | 9 house | | 1 slippers |
| 5 beautiful | 12 dark | | 4 nice | 1 small |
| 1 beauty | 1 draw | 1 ignorant | 1 night | 1 sorrow |
| 1 bed | 100 dress | 1 indolent | 1 nothing | 1 spire |
| 1 beet | 1 dummy | 21 Irish | | 1 spires |
| 1 big | 1 dye | 1 it | 19 paint | 1 steam |

| | | | | |
|-------------|--------------|------------|------------|----------|
| 1 blanket | | | 9 paper | 9 stem |
| 13 blue | 1 fine | 1 kind | 1 park | 1 style |
| 1 boat | 1 flag | | 6 pencil | 1 sweet |
| 3 book | 7 flower | 1 lace | 1 pink | |
| 1 boy | 1 flowers | 1 lavender | 8 plant | 1 thing |
| 7 bright | 1 fresh | 1 lawn | 1 plume | 1 tree |
| | 1 fruit | 1 leaf | 23 pretty | |
| 1 cabbage | | 1 leafy | | 29 wait |
| 1 checkered | 1 glass | 2 lean | 1 railroad | 1 walls |
| 4 Christmas | 1 good | 13 leaves | 4 red | 3 white |
| 12 cloth | 3 goods | 13 light | 6 ribbon | 1 wood |
| 5 coat | 272 grass | 2 like | | 1 woods |
| 237 color | 1 gray | | 1 sad | |
| 1 corn | 1 greenhouse | 1 man | 15 silk | 6 yellow |
| | | | | 1 young |

95. SALT

| | | | | |
|------------|-------------|-------------|-------------|------------|
| 4 bad | 1 doughnuts | 1 kitchen | 29 pepper | 1 soft |
| 1 bake | 1 dream | | 3 petre | 4 soup |
| 1 beet | 1 drink | 1 lalt | 2 pickle | 79 sour |
| 110 bitter | | 2 lake | 3 pinch | 1 stale |
| 2 box | 93 eat | 3 like | 2 pork | 4 sting |
| 8 bread | 6 eating | 1 loft | 5 potato | 3 store |
| 1 bricks | 1 egg | 1 look | 49 potatoes | 13 strong |
| 4 burn | 1 eggs | 1 love | 1 pure | 1 stuff |
| 4 butter | | | 1 put | 23 sugar |
| | 1 fall | 1 malt | | 6 sweet |
| 1 carrot | 1 feathers | 99 meat | 1 rabbit | 1 Syracuse |
| 1 cattle | 1 fine | 1 me | 1 roast | |
| 3 cellar | 6 fish | 1 men | 1 rock | 14 table |
| 1 China | 4 flavor | 3 mine | 1 rotten | 21 taste |
| 1 class | 5 food | 3 mineral | | 1 tasty |
| 6 cook | 1 found | 1 mountains | 1 sacks | 10 thirsty |
| 1 cooking | | 1 much | 10 salty | 3 tomato |
| 4 cow | 1 goat | 2 nasty | 25 sea | 1 too |
| 1 cried | 30 good | 3 nice | 1 shake | |
| 1 crystal | 1 goods | | 7 shaker | 1 useful |
| | 1 grain | 64 ocean | 1 sharp | |
| 1 dandy | 1 halt | 1 onion | 1 sheep | 1 we |
| 1 deep | 1 horrid | 1 pain | 1 small | 60 water |
| | 1 horse | | 1 smart | 97 white |
| | | | 1 soap | |

96. STREET

| | | | | |
|---------------|------------|-------------|-------------|-------------|
| 1 Adams | 1 children | 5 ground | 1 meat | 60 road |
| 2 alley | 8 city | | 2 meet | 1 rock |
| 11 auto | 90 clean | 1 Hennepin | 16 mud | 3 run |
| 1 autos | 12 cleaner | 1 home | 15 muddy | 1 running |
| 2 automobile | 1 cleaning | 42 horse | | 7 sand |
| 1 automobiles | 1 complete | 54 horses | 3 narrow | 2 sewer |
| 34 avenue | 1 corners | 4 house | 1 newsboy | 23 sidewalk |
| | 4 country | 1 houses | 1 nice | 2 slippery |
| 1 beat | 4 crossing | 1 is | 1 noise | 2 stone |
| 1 big | 15 curb | | 1 noisy | 2 stores |
| 1 black | | 1 Jefferson | 1 number | 1 straight |
| 1 bled | 34 dirt | | 1 on | 1 streetcar |
| 2 block | 85 dirty | 41 lamp | 1 open | |
| 1 blocks | 1 driving | 7 lamppost | 1 order | 1 teams |
| 1 blood | 1 dry | 1 land | 1 outdoors | 5 town |
| 3 boys | 7 dust | 3 large | | 1 track |
| 4 brick | 7 dusty | 1 lawn | 1 pass | |
| 4 bricks | | 1 light | 1 part | 49 wagon |
| 1 broad | 1 earth | 3 lights | 15 paved | 3 wagons |
| 1 Broadway | 1 even | 1 listen | 15 pavement | 88 walk |
| 1 bumpy | | 7 live | 3 paving | 1 walker |
| 3 busy | 1 far | 13 long | 7 people | 1 walking |
| 79 car | 1 feet | | 1 place | 5 walks |
| 1 cars | 1 funny | 4 man | 1 play | 1 water |
| 2 cement | 1 go | 1 marbles | 1 public | 1 way |
| 2 central | 1 good | 1 Marsball | | 2 wet |
| | | | 5 ride | 8 wide |

2 America
1 animal
1 army

3 bad
1 beast
1 beautiful
3 beer
2 Belgium
1 big
2 boss
1 bow
1 brave
1 bring
1 brother

1 candy
5 castle
3 chief
1 Christ
2 citizen
3 city
1 clothes
1 cold
1 come
1 commander
83 country
3 court
1 crime
124 crown
4 crowned

3 cruel
4 Czar

1 dress

17 emperor
13 England
1 English
1 Europe

fox

1 gentleman
1 George
1 George V
4 German
5 Germany
1 God
2 gold
25 good
2 governor
1 grand

1 habit
3 happy
1 Harold
1 have
4 head
1 hearts
1 high
1 hook

97. KING

1 horse
1 hurt

1 ill
1 Ireland
1 island

1 judge

1 Kaiser
1 kill
18 kingdom
1 knights

1 lady
2 lame
29 land
1 ling
1 lion

1 majesty
66 man
1 manager
1 master
1 mayor
1 mean
1 men
1 money
1 my

1 nail

5 nice
2 noble
1 Norway

1 obey
1 old
1 own
1 owner

26 palace
2 person
1 Peter
1 pillory
1 place
1 Poland
1 poor
10 president
4 pretty
1 prince
1 princess
1 principal
1 proud

50 queen

2 reign
19 rich
1 robe
1 robes
1 royal
107 rule

1 ruled
170 ruler
4 rules
2 Russia
1 Russian

1 seat
1 servants
4 sit
1 small
3 soldier
5 soldiers
5 sovereign
1 staff
2 state
14 stick
1 Sultan
1 Sweden
1 sword
29 throne
1 trouble

1 very

5 walk
7 war
1 where
1 wine
1 wise
1 wood
3 world

1 bed-bugs
1 bees
2 bitter
1 bought
78 bread
22 brick
49 butter

6 cat
1 churn
8 cottage
3 cow
3 cows
1 cracker
33 cream

1 dinner

251 eat
4 eating
1 eats
1 Edam
1 egg

17 food

1 goat
1 goats
1 gone
57 good
1 grocer

98. CHEESE

1 holes
1 hungry

1 I
1 Italian

1 knees
1 knife

4 like
7 Limburger
1 lunch

1 man
1 meat

59 mice
32 milk
128 mouse

2 nice

1 old

1 pound

57 rat
32 rats

1 sandwich
13 smell

1 sneeze
2 soft
1 sour
3 stink
5 store
1 strong
1 supper
1 sweet
9 Swiss
1 Switzerland

1 taste

6 white
76 yellow

99. BLOSSOM

87 apple
7 apples
1 autumn

1 bears
1 beauty
2 big
1 bird
48 bloom
2 blooming
1 blooms
1 blue
45 bud
2 buds

1 California

1 cherry
1 clover
1 color
1 cook
1 crocus

1 earth

486 flower
93 flowers
1 fruit

8 garden
1 good
6 grow

1 hive
1 house

1 June

1 leaf
1 leaves
1 like
4 lily
1 love

1 May

1 nice
1 now

1 open
1 out

2 pansy
1 peach
1 peaches
1 peas
1 pick
4 pink
20 plum
37 pretty
1 purple

2 red
26 rose
1 roses

1 round

1 shiny
12 smell
11 spring
1 stem
14 summer
4 sweet

9 tree
1 tulip

1 violet

30 white
1 winter

100. AFRAID

| | | | | |
|-------------|---------------|------------|-------------|----------|
| 1 alley | 1 cow | 4 go | 1 monkey | 1 ship |
| 1 alone | 19 coward | 2 gun | 2 mouse | 2 sleep |
| 1 am | 1 cry | 1 gypsies | | 1 snake |
| 3 animals | 1 crying | | 1 nervous | 1 strong |
| 1 auto | | 1 her | 59 night | |
| 18 baby | 151 dark | 1 him | 1 no | 1 tabby |
| 1 bad | 73 dog | 2 home | 4 noise | 1 that |
| 1 bashful | 1 donkey | 3 house | | 8 thief |
| 3 bear | 1 don't | 1 humor | 1 people | 4 tiger |
| 2 beast | | | 1 pond | 7 timid |
| 10 boy | 14 fear | 1 jackal | | |
| 1 brand | 1 fire | | 1 rabbit | 1 very |
| 4 brave | 1 foolish | 22 lion | 1 rat | |
| 1 bright | 6 fright | 1 lonesome | 26 robber | 3 walk |
| 1 bug | 5 frighten | 1 long | 2 robbers | 1 weary |
| 33 burglar | 34 frightened | | 22 run | 4 wolf |
| 27 burglars | 2 funny | 1 maid | | 1 women |
| | | 9 man | 41 scare | 1 word |
| | | 5 me | 9 scarecrow | |
| 2 cat | 15 ghost | 1 mean | 290 scared | 1 yes |
| 3 children | 1 ghosts | 1 melt | 1 scaring | 1 you |
| 1 cop | 9 girl | 2 men | 1 scream | |
| | 1 glad | | | |

CHAPTER V

PREFERRED RESPONSES FOR DIFFERENT AGES

The preceding frequency tables, include, as already explained,¹ responses of children varying in age from 9 to 12. It seems desirable, therefore, to give some indication of the degree of agreement between the children of different ages. This is fairly well done by the table below, which gives separately for each age the three most frequent responses to each of the stimulus words. Since the 4 age-groups are not equal in numbers, the numerical frequencies of responses given by different groups could not be directly compared. We have, therefore, simply given the three most frequent responses in the order of their frequency, omitting the coefficients.

It will be seen that there is remarkably close agreement between children of the different ages. This is particularly striking when the present table is compared with a similar one for children as compared with adults, given in the following chapter. This agreement for the 4 different ages here in question is so close as to suggest that it would not be worth while to compile frequency tables for each age. Unless very large numbers of cases were used, something like ten thousand for each age, differences obtained with the different ages would scarcely be reliable. We believe, therefore, that we are justified in taking together, as one group, children of the 4 ages we have used, and regarding the results as representative of children in general between the ages 9 to 12 inclusive.

It may be pointed out, further, that the preceding tables may be much more correctly regarded as proper standards of association in children than can the Kent-Rosanoff tables as proper standards for adults, for the latter include responses from persons of from eight to over eighty years of age, though mainly of the adult ages. Kent and Rosanoff do not give the age distribu-

¹ See Chapter III, Composition of Groups.

tion of their subjects, but they mention a group of 78 children under 16 years of age. On the whole, however, it is probably permissible to speak of their table as an adult table, as does Rosanoff himself.

PREFERRED RESPONSES BY AGES

| Stimulus | 9 yrs. | 10 yrs. | 11 yrs. | 12 yrs. |
|---------------|-----------------------------|--------------------------|--------------------------|---------------------------|
| 1. Table | eat legs dishes | eat dishes legs | eat dishes dish | eat dishes legs |
| 2. Dark | night black see | night black afraid | night see room | night see afraid |
| 3. Music | piano sing play | sing piano sweet | piano sing play | piano sing sweet |
| 4. Sickness | ill bed doctor | doctor bed ill | bed fever doctor | ill doctor bed |
| 5. Man | work hat rich | hat work clothes | work hat person | work hat clothes |
| 6. Deep | hole water well | hole water well | hole well water | hole water down |
| 7. Soft | pillow nice cotton | pillow bed cushion | pillow cotton bed | pillow bed cotton |
| 8. Eating | bread table ice-cream | bread table food | bread table hungry | bread food eat |
| 9. Mountain | high hill peak | high hill snow | high hill steep | high hill snow |
| 10. House | live room chair | live warm room | live big warm | live wood warm |
| 11. Black | dark dress color | dark color dress | dark color dress | dark dirty color |
| 14. Hand | clock fingers work | work fingers clock | fingers work clock | fingers finger work |
| 15. Short | small little pencil | small little dress | small little walk | small little pencil |
| 16. Fruit | apple apples eat | eat orange apple | apple eat good | apples eat banana |
| 17. Butterfly | fly pretty bird | fly wings pretty | fly wings pretty | fly wings butter |
| 18. Smooth | soft flat ice | soft even level | soft even nice | soft even rough |
| 20. Chair | sit seat legs | sit seat wood | sit seat set | sit set rocking |

| | | | | |
|---------------|--------------------------|--------------------------|--------------------------|---------------------------|
| 21. Sweet | good candy sugar | good candy sugar | good sugar oranges | good sugar candy |
| 22. Whistle | noise blow boy | blow boy noise | noise blow loud | blow noise loud |
| 23. Woman | lady dress women | lady dress mother | lady dress mother | lady dress children |
| 24. Cold | winter freeze burn | ice winter snow | snow chilly freeze | winter ice weather |
| 25. Slow | walk lazy fast | walk lazy clock | lazy walk clock | fast walk lazy |
| 26. Wish | bone want doll | want fairy candy | want bone dog | want fairy true |
| 27. River | water lake stream | water swim lake | water swim fish | water swim fish |
| 28. White | dress color light | dress color light | color clean snow | paper light color |
| 29. Beautiful | pretty nice dress | pretty nice lady | pretty nice lady | pretty nice girl |
| 30. Window | glass pane look | glass look light | glass look pane | glass pane look |
| 31. Rough | hard mean bad | hard bumpy mean | hard boy board | boy mean smooth |
| 33. Foot | walk feet leg | walk toes leg | walk leg toes | walks walk leg |
| 34. Spider | web legs bug | web legs bug | web legs bug | legs web bug |
| 35. Needle | sew sewing thread | sew thread sewing | sew stick sewing | sew pin sharp |
| 36. Red | color bright dress | color bright dress | color dress bright | color cloth bright |
| 37. Sleep | bed night tired | bed night eyes | bed night tired | bed night dream |
| 38. Anger | mad fight cross | mad mean cross | mad fight cross | mad fight scold |
| 39. Carpet | rug floor sweep | rug floor dirty | rug floor walk | rug floor house |
| 40. Girl | dress boy hair | dress nice doll | dress child big | dress child boy |
| 41. High | mountain air far | mountain tall hill | hill up mountain | mountain up hill |

| | | | | |
|-------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 42. Working | hard busy man | hard man men | hard man men | hard man busy |
| 43. Sour | milk cream sweet | pickles milk vinegar | milk bitter lemon | sweet eat bitter |
| 44. Earth | ground round black | ground dirt round | ground dirt black | ground round dirt |
| 46. Soldier | war fight fighting | war fight man | war fight army | man fight war |
| 47. Cabbage | eat vegetable garden | vegetable eat garden | vegetable eat leaves | eat vegetable leaves |
| 48. Hard | stone work rock | stone rock floor | stone work soft | work floor rock |
| 49. Eagle | bird fly big | bird fly wings | bird fly mountain | bird fly wings |
| 50. Stomach | ache eat food | ache body eat | ache sick eat | eat ache sick |
| 51. Stem | flower cut green | flower long flowers | flower flowers long | flower flowers long |
| 52. Lamp | light burn glass | light burn glass | light glass burn | light glass burn |
| 53. Dream | sleep night bed | sleep night bed | sleep night bed | sleep night bed |
| 54. Yellow | color dress flower | color dress flower | color dress flower | color dress light |
| 55. Bread | eat dough butter | eat flour good | eat good flour | eat flour dough |
| 57. Boy | play ball bad | play man pants | pants cap child | play man girl |
| 58. Light | lamp dark bright | lamp dark gas | lamp day bright | dark day lamp |
| 60. Bible | book church boly | book God read | book read church | God book read |
| 62. Sheep | wool animal lamb | wool animal white | wool animal lamb | wool animal white |
| 63. Bath | water clean tub | water wash clean | water wash clean | water clean wash |
| 64. Cottage | house lake live | house home lake | house home lake | house home lake |
| 65. Swift | fast run horse | fast run horse | fast run horse | fast horse run |

| | | | | |
|-------------|--------------------------------|--------------------------------|--------------------------------|----------------------------|
| 66. Blue | color dress flag | color dress sky | color dress sky | color dress sky |
| 67. Hungry | eat bread food | eat bread food | eat bread starve | eat bread starve |
| 68. Priest | church minister Catholic | church minister Catholic | church minister Catholic | church minister man |
| 69. Ocean | water waves river | water sea river | water waves sea | water sea ships |
| 70. Head | hair brains eyes | hair brains round | hair brains eyes | hair eyes brains |
| 71. Stove | fire hot warm | hot fire warm | hot fire warm | fire heat hot |
| 72. Long | grass big stick | far grass big | grass far dress | short far grass |
| 74. Whiskey | drink beer drunk | drink drunk liquor | drink drunk beer | drink drunk beer |
| 75. Child | baby good girl | baby girl boy | baby children girl | baby boy children |
| 77. Hammer | pound nail nails | pound nail nails | pound nail nails | nail nails pound |
| 78. Thirsty | water drink dry | drink water dry | water drink dry | water drink dry |
| 79. City | Minneapolis country town | Minneapolis big town | Minneapolis big town | Minneapolis town big |
| 80. Square | block box oblong | block box corner | block oblong straight | block oblong corner |
| 81. Butter | bread yellow eat | bread yellow eat | bread yellow eat | bread eat yellow |
| 82. Doctor | sick man medicine | sick medicine man | sick man medicine | sick medicine man |
| 83. Loud | holler talk noise | noise holler talk | noise talk holler | holler noise talk |
| 84. Thief | steal robber money | steal robber burglar | steal robber money | steal robber burglar |
| 85. Lion | animal beast eat | animal beast ferce | animal eat ferce | animal ferce eat |
| 86. Joy | happy fun glad | happy glad fun | happy glad fun | happy fun glad |
| 87. Bed | sleep lay night | sleep lay night | sleep night lay | sleep night lay |

| | | | | |
|--------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 88. Heavy | iron hard load | hard iron load | hard iron load | light hard iron |
| 89. Tobacco | smoke chew pipe | smoke chew pipe | smoke chew pipe | smoke chew pipe |
| 90. Baby | child little cry | child cry small | child cry little | cry child little |
| 91. Moon | night round bright | light bright night | light shine round | light night bright |
| 92. Scissors | cut cutting sharp | cut cutting sharp | cut cutting sharp | cut cutting cloth |
| 93. Quiet | still sleep soft | still noise sleep | still sleep house | still house noise |
| 94. Green | grass color dress | color grass dress | grass color dress | color grass dress |
| 95. Salt | bitter white meat | bitter white meat | eat meat bitter | meat bitter eat |
| 96. Street | dirty clean horse | walk dirty car | walk dirty road | walk car dirty |
| 97. King | crown ruler good | crown ruler rule | ruler crown country | ruler rule country |
| 98. Cheese | eat mouse rat | eat mouse bread | eat mouse butter | eat mouse yellow |
| 99. Blossom | flower flowers apple | flower flowers apple | flower flowers apple | flower flowers white |
| 100. Afraid | scared dark night | scared dark dog | scared dark dog | scared dark night |

CHAPTER VI

COMPARISON OF ASSOCIATION TYPES OF CHILDREN AND ADULTS

Nearly every writer on the psychology of association has emphasized the difficulties of any classification of associations according to their form, or type. With respect to these difficulties, we agree absolutely with previous workers. We do not wish to minimize the uncertainty and arbitrariness of any classification of associations, particularly when unaided by introspection; nor do we claim any value, except for our present purpose, for the system of headings which we ourselves have used. As regards the aid to be obtained from introspection, it may be questioned if children's introspection would be of sufficient reliability for use in the classification of associations according to their type. At any rate, introspections were not available, either for children or adults.

Notwithstanding the difficulties, we believe that the careful classification of associations that we have made for both children and adults is of great value. In spite of the large numbers of possible errors, the comparison of these classifications brings out in unquestionable manner a number of extremely striking and important differences in the mental processes of children and adults.

In this connection, we should like to quote, approvingly, Kent and Rosanoff: "It must, indeed, be conceded that objective methods can reveal but indirectly and with uncertainty the inner mechanism which produces any association and that in any given instance it would be impossible to establish the correctness of grouping in accordance with such methods. However, to decide that question for any given reaction is really not necessary in practice, since an error made through wrongly placing one, two, or three reactions under any heading is of no significance; the types acquire importance when represented by large numbers . . . and when many reactions fall under a single heading the likelihood of error, as affecting the record as a whole, is by that fact alone greatly reduced.

"The whole question might more profitably be approached from another point of view. To what extent are the distinctions of this classification useful? An answer to this question can be found only in the results."¹ It should be explained that the above statements of Kent and Rosanoff were made concerning their system of classification and not the one we have used, but they express our attitude towards our own attempts at classification.

As regards the value of classifications as significant forms of description, we agree with Wells, who writes as follows: "In the valuable study of Kent and Rosanoff, considerable distrust is expressed of the quasi-logical categories, because of their vagueness and subjectivity. A somewhat similar opinion has been expressed by the present writer. At the same time, it could obviously not be supposed that the further development of the association test would render it possible to dispense altogether with this principle of classification. It is as impracticable to make frequency tables for all association words as it is desirable to state their results in a more significantly descriptive form than they permit."²

In our selection of classificatory categories, we have endeavored merely to get headings which would serve to describe the chief similarities and dissimilarities between the associations of children and adults. We have distinguished the following types:

- | | |
|--------------------|------------------------------|
| I. Superordination | XII. Verbs |
| II. Subordination | XIII. Participles |
| III. Coordination | XIV. Adjective-Noun |
| IV. Contrast | XV. Noun-Adjective |
| V. Similarity | XVI. Noun-Abstract Attribute |
| VI. Part-Whole | XVII. Verb-Object |
| VII. Whole-Part | XVIII. Pronouns |
| VIII. Cause-Effect | XIX. Sound-Similarity |
| IX. Effect-Cause | XX. Word-Compounding |
| X. Material | XXI. Non-Specific |
| XI. Contiguity | XXII. Miscellaneous |

¹ *Op. cit.*, pp. 27-28.

² A Preliminary Note on the Categories of Association Reactions, *Psych. Rev.* Vol. XVIII, 1911, p. 229.

The meaning of most of these headings is sufficiently clear, particularly as they are fully illustrated further on. Some of them, however, require a few words of explanation. The class of associations headed contiguity, includes associations by both temporal and spatial contiguity. Associations by temporal contiguity were so rare that it did not seem worth while to make a separate class of them. This class includes also any response which might be designated a spatial or temporal localization. We have also placed in this class, instead of under whole-part, any association between a person and an article of clothing.

The distinction between the classes *verbs* and *participles* is an important one, as the participles, particularly the present ones, which almost exclusively compose this class, usually have a more abstract implication than the verbs.

Under the heading, word-compounding, we have included not only cases of actual compounding but all pairs of words so closely connected as practically to form a compound word, such as high,—up and deep,—down. Under this same heading, we have placed all cases of syntactical change, except those which are classified under the heading of sound-similarity. Thus the association long,—length is classified under word-compounding and high,—height under sound similarity. This inclusion of certain cases of syntactical change under the heading of word-compounding makes the heading somewhat misleading. Perhaps 'superficial verbal' would be a better heading, in which case, association by sound similarity would be a sub-class.

The miscellaneous group includes three cases: first, associations which seemed to belong fairly well in more than one of our groups; second, associations of a sort so rare that it was not deemed worth while to make a separate classification of them; and third, associations which were extremely difficult to classify at all, at any rate, under any very general heading.

The responses classed as non-specific, no matter with what stimulus words they occurred, were the following:

article(s)
bad
beautiful
beauty
big
fine
good
happy
happiness
large
man

nice
object
people
person
pleasant
pleasantness
pleasing
pleasure
pretty
small
thinking

thought(s)
unnecessary
unpleasant
use(s)
used
useful(ness)
useless(ness)
using
woman
work

Using the data on the ninety words which both our tables and the Kent-Rosanoff tables have in common, we have classified, with the greatest care every response in both the children's tables and the Kent-Rosanoff tables with a frequency of ten or over. For three of our classes of associations, we have classified every case, even those of a frequency of only one. These classes are the associations by similarity in sound, responses consisting of pronouns and the non-specific responses. With these classes, especially the first two of them, such a large proportion of the responses have a frequency less than ten that representative results could hardly be secured without using all cases. No response has been classified under more than one heading, with the exception of the non-specific responses. All the non-specific responses, however, are classified twice,—once under the heading of non-specific and once under some other heading.

In our tabulated summary of the various association types, we have used all the associations that we have classified. In the table, we give for each type of association, for children and adults separately, the following: first, the number of response words of the type in question (No.); 2d, their average frequency (Av. F.); third, the sum of their frequencies (Total); and fourth, the percentage of all the responses composed by the responses of the type in question, that is the percentage that the total frequency is of 90,000 (%).

SUMMARY OF DATA ON ASSOCIATION TYPES

| Class | No. | Adults | | | Children | | Total | % |
|----------------------------|-----|--------|-------|------|----------|-------|--------|------|
| | | Av.F. | Total | % | No. | Av.F. | | |
| Superordination | 97 | 70 | 6,832 | 7.6 | 61 | 54 | 3,304 | 3.7 |
| Subordination | 45 | 33 | 1,478 | 1.6 | 43 | 44 | 1,912 | 2.1 |
| Coordination | 253 | 39 | 9,781 | 10.9 | 207 | 26 | 5,442 | 6.0 |
| Contrast | 66 | 144 | 9,500 | 10.6 | 50 | 24 | 1,201 | 1.3 |
| Similarity | 147 | 54 | 7,978 | 8.9 | 115 | 67 | 7,729 | 8.6 |
| Part-Whole | 19 | 52 | 997 | 1.1 | 15 | 22 | 337 | 0.4 |
| Whole-Part | 63 | 30 | 1,903 | 2.1 | 63 | 52 | 3,248 | 3.6 |
| Cause-Effect | 41 | 54 | 2,213 | 2.5 | 30 | 58 | 1,741 | 1.9 |
| Effect-Cause | 13 | 26 | 338 | 0.4 | 11 | 43 | 471 | 0.5 |
| Material | 20 | 44 | 878 | 1.0 | 19 | 43 | 812 | 0.9 |
| Contiguity | 172 | 31 | 5,372 | 6.0 | 210 | 66 | 13,763 | 15.3 |
| Verbs | 175 | 33 | 5,776 | 6.4 | 192 | 48 | 9,163 | 10.2 |
| Participles | 63 | 28 | 1,738 | 1.9 | 53 | 15 | 803 | 0.9 |
| Adj.-Noun | 273 | 23 | 6,204 | 6.9 | 291 | 35 | 10,077 | 11.2 |
| Noun-Adj. | 221 | 17 | 3,851 | 4.3 | 230 | 31 | 7,037 | 7.8 |
| Noun-Abst. Att. | 12 | 21 | 248 | 0.25 | 6 | 7 | 44 | 0.05 |
| Verb-Object | 28 | 27 | 764 | 0.9 | 33 | 45 | 1,488 | 1.7 |
| Pronouns | 30 | 2 | 51 | 0.05 | 104 | 2 | 202 | 0.22 |
| Sound Similarity | 29 | 2 | 61 | 0.07 | 133 | 3 | 384 | 0.43 |
| Word-Compounding | 25 | 28 | 697 | 0.77 | 27 | 35 | 942 | 1.04 |
| Non-Specific | 603 | 9 | 5,614 | 6.2 | 563 | 12 | 6,904 | 7.7 |
| Miscellaneous | 81 | 53 | 4,251 | 4.7 | 73 | 68 | 4,998 | 5.5 |

The data presented in the table admit of a number of conclusions, which, so long as they are stated in a non-mathematical manner, may be regarded as established beyond a doubt. These conclusions are the following:

(1) The following types occur more frequently in children than adults: verbs, verb-object, noun-adjective, adjective-noun, pronouns, sound similarity, contiguity, whole-part and, less definitely, subordination and word-compounding.

(2) The following types occur more frequently in adults than in children: contrast, superordination, coordination, part-whole, noun-abstract attribute, participles and, less definitely, cause and effect.

(3) The following types are about equally frequent in both pronouns, sound similarity, contiguity, whole-part and, less definitely, reactions belonging to the miscellaneous group, and effect-cause. The results with respect to associations from effect to cause, however, we regard as unreliable for not only is the number of such cases small, but are not very clear-cut cases.

The preceding conclusions are based upon the results obtained with a particular list of stimulus words. To what extent this fact limits their general validity, it is hard to say. Differences between groups would, however, be much less dependent upon the list of stimulus words than would the relative frequency of the various types of association for a single group. For example, it presumably matters but little whether our list contains ten or thirty stimulus words with easy opposites. So long as we give the same words to both children and adults, we are justified in comparing them with respect to their tendency to give opposites.

We should like very much to print our classifications in full, but this would require too much space. We have decided, therefore, to limit our printed classifications to responses possessing a frequency of fifty or over in one or the other of the tables. These are sufficient in number to show how we have interpreted our various classificatory categories, and they illustrate fairly well the differences or similarities, as the case may be, existing between children and adults with respect to the various types.

In comparing the frequencies of response of adults and child-

ren in any one case, a number of complicating conditions should be kept in mind.

In the first place, the frequency of any single response of a given type may be lowered because of the high frequency of a response of a different type. For example, let us suppose that adults have a stronger tendency than children towards association by superordination, and at the same time a stronger tendency towards association by contrast. Now if the stimulus word is one which has an easy opposite, a very large portion of the adults' responses may consist of this opposite. Consequently, there will be fewer adult responses left to be divided among the other reaction words; and the frequency of a given superordinating response may be less with the adults than with the children, in spite of a greater tendency towards superordination on the part of the adults, simply because a greater portion of the adult responses have been used up in the contrasting response.

Again, the difference in vocabulary between adults and children has to be carefully considered. Without at present raising the general question of the explanation of the differences in association type between adults and children, it is evident that many responses (such as the response *abode*, to *house*) can not be expected from children, simply because they have not acquired them. Now it may happen in some cases that most of the fitting responses of a given association type are words which children have not at their command, in which case the frequency of the children's responses of this type would naturally be low, even though in general their tendency towards associations of this type might be high.

On the other hand, the adults may know several response words of a certain type and give all of them, whereas the children might know only one. In this case the frequency attaching to the children's single response might be greater than that attaching to the adults', simply because the children had united on the one word; and yet the general tendency of the adults towards the type of association in question might be much more pronounced than that of children.

Another point that should be considered, one of great impor-

tance, is the definiteness or accuracy with which a response shows the type of association in question. For example, the association, cabbage,—vegetable, is a much more clear cut case of super-ordination than the association, cabbage,—thing. In general it may be said that the non-specific responses,—responses, that is, which occur to many different stimulus words, are less significant than specific responses. A number of the exceptions to the general trend of differences between adults and children occur in connection with these non-specific responses. For example, the adults show a distinctly greater tendency towards superordination than the children, and yet the frequency for children is slightly greater in three of the cases where non-specific responses occur, namely, man,—person, woman,—person, and boy,—person. Similarly, in cases where the classification of an association is doubtful, differences in the frequency of that association between adults and children must be of more doubtful significance, as regards preferred types of association, than where the classification is unquestionably correct.

Lastly, one should keep in mind the unreliability of any particular frequency. Whenever the differences between the frequencies for adults and for children is small, it is not certain but that the group showing the highest frequency would not, with a larger number of subjects, show the lower frequency.

We append the classifications of responses of a frequency of fifty or over.

CLASSIFICATIONS OF ASSOCIATIONS

I. SUPERORDINATION

| Stimulus | Response | Adults | Children |
|---------------|--------------|--------|----------|
| 1. Table | furniture | 75 | 0 |
| 3. Music | sound | 95 | 35 |
| 5. Man | male | 99 | 8 |
| 10. House | building | 78 | 16 |
| | dwelling | 68 | 1 |
| | home | 103 | 39 |
| 17. Butterfly | insect | 261 | 66 |
| 20. Chair | furniture | 83 | 7 |
| 22. Whistle | noise | 173 | 185 |
| 23. Woman | female | 134 | 9 |
| 27. River | stream | 117 | 30 |
| 34. Spider | bug | 58 | 83 |
| | insect | 276 | 57 |
| 39. Carpet | covering | 76 | 0 |
| 40. Girl | child(ren) | 51 | 57 |
| | female | 77 | 22 |
| 46. Soldier | man | 189 | 95 |
| 47. Cabbage | vegetable(s) | 404 | 174 |

| Stimulus | Response | Adults | Children |
|-------------|------------|--------|----------|
| 49. Eagle | bird | 568 | 373 |
| 50. Stomach | organ | 81 | 0 |
| 55. Bread | food | 191 | 37 |
| 57. Boy | child(ren) | 87 | 59 |
| | male | 63 | 9 |
| 60. Bible | book | 338 | 224 |
| 62. Sheep | animal(s) | 243 | 119 |
| 64. Cottage | home | 85 | 101 |
| 68. Priest | man | 75 | 69 |
| 74. Whiskey | liquor | 70 | 97 |
| 77. Hammer | tool | 69 | 11 |
| 81. Butter | food | 63 | 19 |
| 82. Doctor | man | 68 | 132 |
| 85. Lion | animal | 326 | 205 |
| | beast | 67 | 95 |
| 97. King | man | 43 | 66 |
| 98. Cheese | food | 91 | 17 |

II. SUBORDINATION

| | | | |
|-------------|-------------|-----|-----|
| 3. Music | piano | 180 | 198 |
| | song(s) | 74 | 66 |
| 4. Sickness | fever | 9 | 50 |
| 16. Fruit | apple(s) | 259 | 305 |
| | banana(s) | 19 | 96 |
| | orange(s) | 45 | 99 |
| 23. Woman | mother | 30 | 53 |
| 44. Earth | clay | 71 | 0 |
| 75. Child | boy | 64 | 90 |
| | girl | 45 | 93 |
| 79. City | Minneapolis | 0 | 218 |
| | New York | 99 | 2 |
| 99. Blossom | apple | 50 | 87 |

III. COORDINATION

| | | | |
|---------------|--------------|-----|-----|
| 1. Table | chair(s) | 274 | 24 |
| 5. Man | boy | 44 | 29 |
| 6. Deep | low | 51 | 35 |
| 10. House | barn | 74 | 12 |
| 14. Hand | foot | 204 | 0 |
| 16. Fruit | vegetable(s) | 103 | 13 |
| 17. Butterfly | bird(s) | 74 | 57 |
| 18. Smooth | nice | 4 | 68 |
| | soft | 79 | 132 |
| 20. Chair | table | 191 | 29 |
| 21. Sweet | good | 26 | 213 |
| 23. Woman | girl | 59 | 17 |
| 25. Slow | easy | 63 | 13 |
| | lazy | 28 | 138 |
| 27. River | lake | 65 | 42 |
| 29. Beautiful | nice | 73 | 169 |
| 30. Window | door | 57 | 2 |
| 31. Rough | hard | 38 | 144 |
| | mean | 1 | 71 |
| 33. Foot | hand | 185 | 5 |
| 34. Spider | fly | 136 | 40 |
| 35. Needle | pin(s) | 158 | 37 |
| 36. Red | black | 61 | 0 |
| | blue | 99 | 9 |
| | white | 97 | 18 |
| 40. Girl | woman | 61 | 8 |
| 41. High | far | 1 | 58 |
| 43. Sour | bitter | 70 | 63 |
| 46. Soldier | sailor | 58 | 0 |
| 50. Stomach | intestine(s) | 60 | 1 |
| 51. Stem | flower(s) | 266 | 447 |
| | leaf | 96 | 11 |
| 53. Dream | thought(s) | 60 | 4 |
| 54. Yellow | white | 70 | 3 |
| 57. Boy | man | 104 | 61 |
| 60. Bible | church | 50 | 110 |
| 62. Sheep | lamb(s) | 187 | 108 |
| 66. Blue | green | 54 | 1 |
| | red | 54 | 21 |
| 67. Hungry | thirsty | 73 | 14 |
| 69. Ocean | sea | 75 | 88 |

| Stimulus | Response | Adults | Children |
|--------------|----------|--------|----------|
| 70. Head | foot | 64 | 0 |
| 72. Long | big | 1 | 55 |
| 74. Whiskey | alcohol | 50 | 15 |
| | beer | 46 | 108 |
| .75. Child | baby | 193 | 185 |
| | infant | 122 | 3 |
| | mother | 55 | 26 |
| 79. City | country | 74 | 86 |
| | town | 258 | 110 |
| 80. Square | oblong | 32 | 95 |
| 81. Butter | milk | 101 | 47 |
| 85. Lion | tiger | 102 | 13 |
| 88. Heavy | hard | 38 | 178 |
| 90. Baby | child | 239 | 172 |
| 91. Moon | sun | 120 | 14 |
| | star(s) | 125 | 19 |
| 92. Scissors | knife | 66 | 2 |
| 93. Quiet | peaceful | 52 | 3 |
| | rest | 68 | 4 |
| 94. Green | yellow | 54 | 6 |
| 95. Salt | bitter | 40 | 110 |
| | pepper | 142 | 29 |
| | sour | 18 | 79 |
| | sugar | 88 | 23 |
| 96. Street | avenue | 63 | 34 |
| | road | 91 | 60 |
| 98. Cheese | bread | 56 | 78 |
| | butter | 136 | 49 |
| | milk | 106 | 32 |

IV. CONTRAST

| | | | |
|---------------|-----------|-----|----|
| 2. Dark | light | 427 | 38 |
| 4. Sickness | health | 142 | 6 |
| 5. Man | woman(en) | 394 | 25 |
| 6. Deep | shallow | 180 | 6 |
| 7. Soft | hard | 365 | 27 |
| 9. Mountain | valley | 90 | 3 |
| 11. Black | white | 339 | 27 |
| 15. Short | long | 279 | 54 |
| | tall | 168 | 12 |
| 18. Smooth | rough | 277 | 35 |
| 21. Sweet | bitter | 50 | 0 |
| | sour | 301 | 23 |
| 23. Woman | man | 292 | 17 |
| 24. Cold | hot | 151 | 12 |
| | warm | 166 | 25 |
| 25. Slow | fast | 316 | 65 |
| | quick | 56 | 4 |
| 28. White | black | 308 | 28 |
| 29. Beautiful | ugly | 66 | 0 |
| 31. Rough | smooth | 346 | 35 |
| 37. Sleep | awake | 94 | 14 |
| | wake | 60 | 6 |
| 40. Girl | boy | 350 | 40 |
| 41. High | low | 328 | 25 |
| 43. Sour | sweet | 349 | 75 |
| 48. Hard | soft | 367 | 65 |
| 57. Boy | girl | 319 | 32 |
| 58. Light | dark | 231 | 99 |
| | darkness | 93 | 0 |
| 65. Swift | slow | 190 | 28 |
| 72. Long | short | 413 | 45 |
| 80. Square | round | 250 | 35 |
| 83. Loud | low | 57 | 8 |
| | soft | 165 | 13 |
| 86. Joy | sorrow | 135 | 0 |
| 88. Heavy | light | 273 | 54 |
| 93. Quiet | noise | 50 | 70 |
| | noisy | 113 | 8 |
| 97. King | queen | 354 | 50 |

V. SIMILARITY

| | | | |
|-------------|-----------|-----|-----|
| 2. Dark | black | 76 | 80 |
| 4. Sickness | ill(ness) | 119 | 100 |
| 9. Mountain | hill(s) | 216 | 97 |
| 11. Black | dark | 172 | 315 |
| 15. Short | little | 15 | 157 |

| Stimulus | Response | Adults | Children |
|---------------|-----------|--------|----------|
| 18. Smooth | small | 136 | 214 |
| | even | 30 | 70 |
| | level | 52 | 55 |
| 20. Chair | seat | 127 | 131 |
| 23. Woman | lady | 41 | 243 |
| 26. Wish | desire | 197 | 4 |
| 28. White | clean | 10 | 97 |
| 29. Beautiful | handsome | 86 | 13 |
| | lovely | 64 | 8 |
| | pretty | 113 | 280 |
| 31. Rough | bumpy | 1 | 61 |
| 38. Anger | cross | 44 | 56 |
| | passion | 51 | 0 |
| | temper | 149 | 8 |
| | wrath | 52 | 0 |
| 39. Carpet | rug(s) | 177 | 247 |
| 41. High | tall | 57 | 56 |
| 42. Working | busy | 51 | 49 |
| | labor | 147 | 18 |
| 44. Earth | dirt | 115 | 102 |
| | ground | 166 | 223 |
| 58. Light | bright | 47 | 74 |
| 62. Sheep | mutton | 60 | 9 |
| 64. Cottage | house | 461 | 425 |
| 65. Swift | fast | 222 | 391 |
| | quick | 117 | 10 |
| 68. Priest | clergyman | 62 | 0 |
| | minister | 178 | 168 |
| | preacher | 35 | 57 |
| | far | 8 | 90 |
| 72. Long | dry | 218 | 132 |
| 78. Thirsty | grease | 76 | 5 |
| 81. Butter | physician | 213 | 6 |
| 82. Doctor | noisy | 112 | 11 |
| 83. Loud | burglar | 118 | 64 |
| | robber | 126 | 229 |
| 86. Joy | fun | 6 | 182 |
| | glad | 27 | 203 |
| | happiness | 215 | 25 |
| | happy | 71 | 260 |
| | pleasure | 121 | 6 |
| 90. Baby | infant | 168 | 20 |
| 93. Quiet | still | 136 | 300 |
| 97. King | ruler | 162 | 170 |
| 99. Blossom | flower(s) | 540 | 579 |
| 100. Afraid | nervous | 55 | 1 |
| | scared | 106 | 290 |
| | timid | 55 | 7 |

VI. PART-WHOLE

| | | | |
|-------------|---------|-----|----|
| 16. Fruit | tree(s) | 62 | 11 |
| 33. Foot | limb | 58 | 0 |
| 46. Soldier | army | 137 | 63 |
| 50. Stomach | body | 99 | 78 |
| 51. Stem | plant | 74 | 25 |
| 70. Head | body | 146 | 26 |
| 99. Blossom | tree(s) | 57 | 9 |

VII. WHOLE-PART

| | | | |
|---------------|-----------|-----|-----|
| 1. Table | leg(s) | 23 | 78 |
| 3. Music | notes | 17 | 10 |
| 9. Mountain | peak(s) | 17 | 50 |
| | rock(s) | 18 | 49 |
| 10. House | room(s) | 17 | 64 |
| | finger(s) | 112 | 199 |
| 14. Hand | wing(s) | 41 | 137 |
| 17. Butterfly | glass | 316 | 421 |
| | pane | 82 | 62 |
| 33. Foot | toe(s) | 71 | 115 |
| 34. Spider | legs | 27 | 107 |
| 47. Cabbage | leaves | 11 | 62 |
| 49. Eagle | wing(s) | 24 | 92 |
| 62. Sheep | wool | 143 | 411 |
| 69. Ocean | wave(s) | 57 | 96 |
| 70. Head | brain(s) | 90 | 162 |
| | eye(s) | 12 | 107 |
| | hair | 159 | 203 |
| 79. City | house(s) | 55 | 29 |

VIII. CAUSE-EFFECT

| Stimulus | Response | Adults | Children |
|-------------|-------------|--------|----------|
| 4. Sickness | death | 115 | 8 |
| 52. Lamp | light | 650 | 648 |
| 63. Bath | clean | 120 | 192 |
| | cleanliness | 109 | 1 |
| 71. Stove | fire | 217 | 164 |
| | heat | 213 | 112 |
| 74. Whiskey | drunk | 31 | 138 |
| 91. Moon | light | 231 | 155 |

IX. EFFECT-CAUSE

| | | | |
|-------------|------------|-----|-----|
| 37. Sleep | tired | 26 | 67 |
| 67. Hungry | appetite | 57 | 3 |
| 100. Afraid | burglar(s) | 5 | 60 |
| | dark | 114 | 151 |
| | dog | 1 | 73 |

X. MATERIAL

| | | | |
|------------|-------|-----|-----|
| 2. Table | wood | 76 | 21 |
| 35. Needle | steel | 53 | 23 |
| 52. Lamp | glass | 8 | 50 |
| 55. Bread | dough | 26 | 80 |
| | flour | 88 | 95 |
| 36. Bath | water | 339 | 295 |
| 77. Hammer | iron | 45 | 62 |

XI. CONTIGUITY

| | | | |
|-------------|----------|-----|-----|
| 1. Table | dish(es) | 45 | 159 |
| 2. Dark | night | 221 | 421 |
| 4. Sickness | bed | 54 | 105 |
| | doctor | 62 | 116 |
| 5. Man | hat | 7 | 82 |
| 8. Eating | table | 21 | 108 |
| 9. Mountain | snow | 10 | 61 |
| 14. Hand | arm | 63 | 44 |
| 30. Window | light | 186 | 47 |
| 33. Foot | leg(s) | 55 | 115 |
| | shoe(s) | 163 | 81 |
| 35. Needle | thread | 160 | 72 |
| 37. Sleep | bed(s) | 75 | 382 |
| | night | 49 | 95 |
| 38. Anger | boy(s) | 3 | 53 |
| 39. Carpet | floor | 256 | 149 |
| 40. Girl | dress | 8 | 240 |
| 46. Soldier | gun | 27 | 61 |
| 50. Stomach | food | 102 | 83 |
| 51. Stem | pipe | 70 | 42 |
| 53. Dream | bed | 11 | 78 |
| | night | 42 | 260 |
| 54. Bread | butter | 151 | 8 |
| 57. Boy | ball | 10 | 55 |
| | cap | 1 | 53 |
| | pants | 6 | 63 |
| 58. Light | day | 81 | 67 |
| 64. Cottage | lake | 5 | 117 |
| 68. Priest | church | 166 | 271 |
| 69. Ocean | boat(s) | 7 | 54 |
| | ship(s) | 35 | 79 |
| 74. Whiskey | saloon | 15 | 57 |
| 81. Butter | bread | 206 | 467 |
| 82. Doctor | medicine | 149 | 136 |
| | sick | 52 | 448 |
| | sickness | 104 | 34 |
| 84. Thief | money | 16 | 63 |
| 87. Bed | night | 11 | 106 |
| 89. Tobacco | pipe | 69 | 70 |
| 90. Baby | milk | 1 | 55 |
| 91. Moon | night | 66 | 128 |
| | sky | 73 | 103 |
| | stars | 93 | 10 |
| 96. Street | horse(s) | 2 | 96 |
| 97. King | crown | 13 | 124 |
| | country | 63 | 83 |
| 98. Cheese | mice | 25 | 59 |
| | mouse | 13 | 128 |
| | rat(s) | 15 | 89 |

XII. VERBS

| Stimulus | Response | Adults | Children |
|---------------|----------|--------|----------|
| 1. Table | eat | 63 | 358 |
| 2. Dark | see | 0 | 47 |
| 3. Music | play | 7 | 81 |
| | sing | 12 | 153 |
| 5. Man | work | 17 | 168 |
| 8. Eating | eat | 0 | 51 |
| 9. Mountain | climb | 9 | 29 |
| 10. House | live | 33 | 165 |
| 14. Hand | work | 49 | 113 |
| | write | 3 | 52 |
| 16. Fruit | eat | 62 | 153 |
| 17. Butterfly | fly | 44 | 179 |
| 20. Chair | sit | 107 | 430 |
| 22. Whistle | blow | 95 | 189 |
| | sing | 75 | 6 |
| 24. Cold | freeze | 7 | 68 |
| 25. Slow | walk | 8 | 107 |
| 26. Wish | hope | 51 | 10 |
| | want | 66 | 99 |
| 27. River | swim | 4 | 72 |
| 30. Window | look | 15 | 116 |
| 33. Foot | walk | 106 | 205 |
| 34. Spider | crawls | 1 | 54 |
| 35. Needle | sew | 134 | 449 |
| 37. Sleep | dream | 28 | 55 |
| | rest | 300 | 40 |
| | wake | 60 | 6 |
| 38. Anger | fight | 8 | 57 |
| 39. Carpet | walk | 15 | 88 |
| 43. Sour | eat | 0 | 54 |
| 46. Soldier | fight | 17 | 160 |
| 47. Cabbage | eat | 30 | 193 |
| 49. Eagle | fly | 46 | 120 |
| 50. Stomach | ache | 31 | 189 |
| | eat | 45 | 108 |
| 52. Lamp | burn | 20 | 70 |
| 53. Dream | sleep | 339 | 272 |
| 55. Bread | eat | 148 | 356 |
| 57. Boy | play | 20 | 84 |
| 60. Bible | read | 31 | 116 |
| 63. Bath | wash | 102 | 143 |
| 64. Cottage | live | 17 | 79 |
| 65. Swift | run | 19 | 202 |
| 67. Hungry | eat | 126 | 337 |
| 70. Head | think | 9 | 59 |
| 71. Stove | burn | 12 | 103 |
| | cook | 24 | 62 |
| 74. Whiskey | drink | 232 | 279 |
| 77. Hammer | pound | 51 | 288 |
| 78. Thirsty | drink | 206 | 364 |
| 79. City | live | 7 | 50 |
| 81. Butter | eat | 34 | 122 |
| 83. Loud | holler | 16 | 190 |
| 84. Thief | steal | 212 | 320 |
| 85. Lion | eat | 1 | 109 |
| | roar | 46 | 52 |
| 87. Bed | lay | 8 | 109 |
| | rest | 122 | 17 |
| | sleep | 345 | 453 |
| 89. Tobacco | chew | 28 | 214 |
| | smoke | 387 | 466 |
| 90. Baby | cry | 37 | 119 |
| 91. Moon | shine | 26 | 107 |
| 92. Scissors | cut | 347 | 802 |
| 96. Street | walk | 78 | 88 |
| 97. King | rule | 10 | 107 |
| 98. Cheese | eat | 67 | 251 |
| 100. Afraid | fear | 197 | 14 |

XIII. PARTICIPLES

| | | | |
|--------------|----------|-----|----|
| 3. Music | singing | 48 | 23 |
| 8. Eating | drinking | 166 | 2 |
| 20. Chair | sitting | 56 | 17 |
| 35. Needle | sewing | 107 | 81 |
| 67. Hungry | eating | 64 | 5 |
| 84. Thief | stealing | 69 | 10 |
| 89. Tobacco | smoking | 98 | 28 |
| 92. Scissors | cutting | 114 | 48 |

XIV. ADJECTIVE-NOUN:

| Stimulus | Response | Adults | Children |
|---------------|-------------|--------|----------|
| 6. Deep | hole | 32 | 257 |
| | ocean | 93 | 15 |
| | sea | 90 | 14 |
| | water | 134 | 145 |
| 7. Soft | well | 44 | 87 |
| | bed | 12 | 57 |
| | bread | 4 | 45 |
| | cotton | 28 | 57 |
| | cushion | 25 | 39 |
| 11. Black | pillow | 53 | 138 |
| | dress | 29 | 63 |
| | night | 51 | 15 |
| 18. Smooth | glass | 56 | 48 |
| 21. Sweet | apple(s) | 14 | 66 |
| | candy | 82 | 146 |
| 24. Cold | sugar | 224 | 178 |
| | ice | 114 | 84 |
| | snow | 45 | 62 |
| | winter | 120 | 103 |
| 25. Slow | snail | 62 | 2 |
| 28. White | cloth | 17 | 61 |
| | dress | 34 | 149 |
| 29. Beautiful | light | 51 | 125 |
| | paper | 17 | 54 |
| | snow | 91 | 65 |
| | flower(s) | 55 | 43 |
| | boy(s) | 8 | 126 |
| | apple(s) | 16 | 56 |
| | blood | 71 | 14 |
| 31. Rough | cloth | 8 | 63 |
| | dress | 18 | 85 |
| 36. Red | air | 5 | 30 |
| | hill | 20 | 92 |
| | mountain(s) | 173 | 125 |
| 41. High | man | 1 | 93 |
| | men | 0 | 52 |
| 42. Working | apple(s) | 37 | 96 |
| | cream | 0 | 52 |
| | lemon(s) | 95 | 60 |
| | milk | 31 | 124 |
| | pickle(s) | 41 | 110 |
| | vinegar | 91 | 53 |
| | floor | 16 | 54 |
| 48. Hard | ground | 2 | 51 |
| | rock | 38 | 92 |
| | stone | 102 | 113 |
| | wood | 66 | 30 |
| | work | 19 | 89 |
| | dress | 9 | 129 |
| | flower | 38 | 105 |
| 54. Yellow | light | 14 | 59 |
| | orange | 47 | 81 |
| | horse | 28 | 124 |
| 65. Swift | dress | 18 | 173 |
| 66. Blue | flag | 6 | 82 |
| | sky | 239 | 102 |
| 72. Long | distance | 81 | 6 |
| | grass | 4 | 75 |
| 80. Square | box | 36 | 80 |
| | corner(s) | 25 | 89 |
| 83. Loud | noise | 205 | 201 |
| | talk | 12 | 130 |
| 88. Heavy | iron | 70 | 213 |
| | lead | 60 | 35 |
| | load | 57 | 72 |
| | weight | 177 | 39 |
| | house | 3 | 62 |
| 93. Quiet | dress | 6 | 100 |
| 94. Green | grass | 284 | 2 |
| | meat | 18 | 99 |
| 95. Salt | water | 34 | 60 |

XV. NOUN-ADJECTIVE

| Stimulus | Response | Adults | Children |
|---------------|----------|--------|----------|
| 3. Music | sweet | 47 | 79 |
| 5. Man | big | 0 | 26 |
| 9. Mountain | high | 246 | 390 |
| 10. House | big | 4 | 51 |
| | warm | 3 | 62 |
| 16. Fruit | good | 24 | 89 |
| 17. Butterfly | pretty | 39 | 89 |
| 22. Whistle | loud | 27 | 71 |
| 35. Needle | sharp | 152 | 56 |
| 36. Red | bright | 40 | 68 |
| 39. Carpet | soft | 78 | 28 |
| 44. Earth | black | 7 | 73 |
| | round | 61 | 82 |
| 46. Soldier | brave | 46 | 53 |
| 49. Eagle | big | 0 | 52 |
| 50. Stomach | sick | 10 | 85 |
| 51. Stem | long | 18 | 60 |
| 55. Bread | good | 21 | 90 |
| 60. Bible | holy | 57 | 68 |
| 62. Sheep | white | 18 | 57 |
| 68. Priest | Catholic | 36 | 111 |
| 69. Ocean | deep | 87 | 23 |
| 70. Head | round | 21 | 58 |
| 71. Stove | black | 59 | 37 |
| | hot | 86 | 200 |
| | warm | 32 | 127 |
| 75. Child | good | 7 | 78 |
| | small | 52 | 45 |
| 79. City | big | 9 | 124 |
| | large | 62 | 40 |
| 81. Butter | soft | 65 | 8 |
| | yellow | 80 | 117 |
| 85. Lion | big | 2 | 83 |
| | fierce | 36 | 119 |
| 90. Baby | little | 12 | 97 |
| | small | 42 | 90 |
| 91. Moon | bright | 52 | 115 |
| | round | 33 | 101 |
| 92. Scissors | sharp | 190 | 35 |
| 95. Sack | white | 36 | 97 |
| 96. Street | clean | 7 | 90 |
| | dirty | 5 | 85 |
| | long | 29 | 13 |
| | narrow | 21 | 3 |
| 98. Cheese | good | 15 | 57 |
| | yellow | 32 | 76 |

XVII. VERB-OBJECT.

| | | | |
|------------|---------|-----|-----|
| 8. Eating | bread | 46 | 178 |
| | food | 170 | 54 |
| 26. Wish | fairy | 11 | 64 |
| 77. Hammer | nail(s) | 283 | 404 |

XX. WORD-COMPOUNDING

| | | | |
|------------|--------|-----|-----|
| 1. Table | cloth | 57 | 43 |
| 26. Wish | bone | 19 | 85 |
| 34. Spider | web | 188 | 261 |
| 41. High | up | 26 | 60 |
| 63. Bath | tub | 71 | 131 |
| 72. Long | length | 50 | 25 |
| 96. Street | car(s) | 18 | 80 |

XXII. MISCELLANEOUS

| | | | |
|-------------|--------|-----|-----|
| 11. Black | color | 129 | 104 |
| 14. Hand | clock | 1 | 65 |
| 21. Sweet | taste | 57 | 23 |
| 22. Whistle | boy(s) | 61 | 103 |
| 27. River | water | 393 | 433 |
| 28. White | color | 170 | 116 |
| 36. Red | color | 254 | 298 |
| 38. Anger | cross | 44 | 56 |
| | mad | 121 | 471 |
| | mean | 1 | 53 |
| 42. Working | hard | 105 | 299 |

| Stimulus | Response | Adults | Children |
|-------------|-----------|--------|----------|
| 43. Sour | taste | 55 | 28 |
| 46. Soldier | war | 94 | 203 |
| 50. Stomach | digestion | 50 | 1 |
| 54. Yellow | color | 301 | 320 |
| 58. Light | gas | 21 | 64 |
| | lamp | 82 | 251 |
| | sun | 85 | 29 |
| | God | 43 | 124 |
| | religion | 89 | 4 |
| 66. Blue | color | 256 | 318 |
| 67. Hungry | bread | 26 | 173 |
| | food | 136 | 55 |
| 69. Ocean | water | 427 | 413 |
| 77. Hammer | hard | 53 | 20 |
| 78. Thirsty | water | 341 | 377 |
| 80. Square | block | 71 | 300 |
| 89. Tobacco | habit | 94 | 1 |
| 93. Quiet | sleep | 24 | 72 |
| 94. Green | color | 200 | 237 |
| 95. Salt | taste | 87 | 21 |
| 100. Afraid | coward | 53 | 19 |
| | night | 12 | 59 |

Classes XVI, XVIII, XIX and XXI have been omitted from the preceding tables. Under the heading noun-abstract attribute (class XVI), there was only one association of a frequency of over 50 with either adults or children, the association, mountain,—height (adults, 73, children 15). Other cases, of lesser frequency, are the following: butterfly,—beauty; eagle,—flight; Bible,—truth; ocean,—depth; child,—innocence; and lion,—strength. Under the heading of pronouns (class XVIII), we have simply included every response consisting of a pronoun. The list of responses called non-specific (class XXI) has already been given in the earlier part of this chapter. Associations by sound-similarity (class XIX) in no case reach a frequency as high as 50, and in most cases have a frequency of only one or two. The following list of illustrations will suffice: table,—able; dark,—mark; short,—port; slow,—oh; wish,—mish; river,—sliver; red,—Ed; anger,—angry; high,—height; working,—work; city,—citizen; blue,—mew; stove,—love; stove,—move; and afraid,—maid.

CHAPTER VII

COMPARISON OF PREFERRED RESPONSES OF CHILDREN AND ADULTS

We have listed below the three most frequent responses of both children and adults. The results for the children are taken from our children's frequency tables and those for adults from the Kent-Rosanoff tables. The frequencies of the three commonest responses of each group are given in heavy faced figures. For each of these three highest frequencies of one group, are given the corresponding frequencies of the other group. For example, with the stimulus word *music*, the three commonest adult responses are *piano* (180), *sound* (95) and *song* (68), while the three commonest children's responses are *piano* (198), *sing* (153) and *sweet* (79). *Sound* and *song* are not among the children's three most frequent responses, but their frequency with children is given, for the sake of comparison, in plain type. Similarly, the words *sing* and *sweet*, though not among the adults' three most frequent responses, have their frequency given in plain type. The table follows.

COMPARISON OF PREFERRED RESPONSES

| Stimulus Word | Response Word | Frequencies | | Stimulus Word | Response Word | Frequencies | |
|---------------|---------------|-------------|------------|---------------|---------------|-------------|------------|
| | | Adults | Children | | | Adults | Children |
| 1. Table | chair | 267 | 16 | 6. Deep | male | 80 | 8 |
| | wood | 76 | 21 | | boy | 44 | 29 |
| | furniture | 75 | 0 | | work | 17 | 168 |
| | eat | 63 | 358 | | bat | 7 | 82 |
| | dishes | 40 | 126 | | person | 30 | 45 |
| | legs | 19 | 76 | | shallow | 180 | 6 |
| 2. Dark | light | 427 | 38 | water | 134 | 145 | |
| | night | 221 | 421 | ocean | 93 | 15 | |
| | black | 76 | 80 | hole | 32 | 257 | |
| | see | 0 | 57 | well | 44 | 87 | |
| 3. Music | piano | 180 | 198 | 7. Soft | hard | 305 | 27 |
| | sound | 95 | 35 | | pillow | 53 | 128 |
| | song | 68 | 50 | | easy | 34 | 15 |
| | sing | 12 | 153 | | bed | 12 | 67 |
| | sweet | 47 | 79 | | cotton | 28 | 57 |
| 4. Sickness | health | 142 | 6 | 8. Eating | food | 170 | 54 |
| | death | 115 | 8 | | drinking | 106 | 2 |
| | illness | 71 | 5 | | bread | 46 | 178 |
| | doctor | 62 | 116 | | table | 21 | 168 |
| | bed | 54 | 166 | 9. Mountain | high | 246 | 300 |
| ill | 48 | 95 | hill | | 184 | 91 | |
| | | | valley | | 80 | 3 | |
| 5. Man | woman | 394 | 8 | snow | 10 | 61 | |

HERBERT WOODROW AND FRANCES LOWELL

| Stimulus Word | Response Word | Frequencies | | Stimulus Word | Response Word | Frequencies | |
|---------------|---------------|-------------|----------|---------------|---------------|-------------|----------|
| | | Adults | Children | | | Adults | Children |
| 10. House | home | 103 | 39 | 26. Wish | desire | 197 | 4 |
| | building | 78 | 16 | | want | 66 | 99 |
| | barn | 74 | 12 | | hope | 51 | 10 |
| | live | 3 | 103 | | bone | 0 | 85 |
| | warm | 3 | 62 | | fairy | 19 | 64 |
| 11. Black | big | 4 | 51 | 27. River | water | 393 | 433 |
| | white | 339 | 27 | | stream | 117 | 30 |
| | dark | 172 | 315 | | lake | 65 | 42 |
| | color | 129 | 104 | | swim | 4 | 72 |
| 14. Hand | dress | 29 | 63 | 28. White | black | 398 | 28 |
| | foot | 204 | 0 | | color | 170 | 116 |
| | fingers | 83 | 130 | | snow | 91 | 65 |
| | arm | 68 | 44 | | dress | 34 | 149 |
| | work | 49 | 113 | | light | 51 | 125 |
| 15. Short | clock | 1 | 65 | 29. Beautiful | pretty | 113 | 280 |
| | long | 279 | 54 | | handsome | 86 | 13 |
| | tall | 168 | 12 | | nice | 73 | 169 |
| | small | 136 | 214 | | lady | 5 | 38 |
| | little | 15 | 157 | | 30. Window | glass | 316 |
| 16. Fruit | apple | 157 | 131 | light | | 186 | 47 |
| | apples | 102 | 174 | pane | | 82 | 62 |
| | vegetable | 75 | 10 | look | | 15 | 116 |
| | eat | 62 | 153 | 31. Rough | | smooth | 346 |
| | 17. Butterfly | insect | 261 | | 66 | hard | 38 |
| bird | | 64 | 57 | | uneven | 38 | 13 |
| fly | | 44 | 179 | | boy | 4 | 89 |
| wings | | 31 | 114 | | mean | 1 | 71 |
| pretty | | 39 | 89 | 33. Foot | hand | 185 | 5 |
| 18. Smooth | rough | 277 | 35 | | shoe | 146 | 73 |
| | soft | 79 | 132 | | walk | 106 | 205 |
| | glass | 58 | 48 | | toes | 41 | 81 |
| | even | 30 | 79 | | leg | 54 | 79 |
| | nice | 4 | 68 | 34. Spider | insect | 276 | 57 |
| 20. Chair | table | 191 | 29 | | web | 188 | 261 |
| | seat | 127 | 131 | | fly | 136 | 40 |
| | sit | 107 | 430 | | legs | 27 | 107 |
| | set | 0 | 38 | | bug | 58 | 83 |
| | 21. Sweet | sour | 301 | 23 | 35. Needle | thread | 180 |
| sugar | | 234 | 178 | sharp | | 152 | 56 |
| candy | | 82 | 146 | pin | | 147 | 36 |
| good | | 26 | 213 | sew | | 134 | 449 |
| 22. Whistle | | noise | 173 | 185 | | sewing | 107 |
| | sound | 103 | 18 | 36. Red | color | 254 | 296 |
| | blow | 85 | 189 | | blue | 99 | 9 |
| | boy | 56 | 79 | | white | 97 | 18 |
| | 23. Woman | man | 292 | | 17 | dress | 18 |
| female | | 124 | 9 | | bright | 40 | 68 |
| girl | | 59 | 17 | 37. Sleep | rest | 300 | 40 |
| lady | | 41 | 243 | | awake | 94 | 14 |
| dress | | 28 | 96 | | bed | 75 | 351 |
| mother | 30 | 53 | night | | 49 | 95 | |
| 24. Cold | warm | 166 | 25 | | tired | 26 | 67 |
| | hot | 151 | 12 | 38. Anger | temper | 149 | 8 |
| | winter | 120 | 103 | | mad | 121 | 471 |
| | ice | 114 | 84 | | wrath | 52 | 0 |
| | freeze | 7 | 68 | | cross | 44 | 56 |
| 25. Slow | fast | 316 | 65 | | fight | 8 | 57 |
| | easy | 63 | 13 | 39. Carpet | floor | 256 | 149 |
| | snail | 62 | 2 | | rug | 163 | 245 |
| | lazy | 28 | 138 | | soft | 78 | 28 |
| | walk | 8 | 107 | | walk | 15 | 88 |
| 40. Girl | boy | 350 | 49 | | boy | 77 | 22 |
| | female | 63 | 13 | female | 61 | 8 | |
| | woman | 62 | 2 | woman | 8 | 249 | |
| | dress | 28 | 138 | child | 49 | 45 | |
| | walk | 8 | 107 | | | | |

| Stimulus Word | Response Word | Frequencies | | Stimulus Word | Response Word | Frequencies | |
|---------------|---------------|-------------|----------|---------------|---------------|-------------|----------|
| | | Adults | Children | | | Adults | Children |
| 41. High | low | 328 | 25 | 55. Bread | food | 191 | 37 |
| | mountain | 157 | 120 | | butter | 151 | 68 |
| | tall | 57 | 56 | | eat | 148 | 356 |
| | hill | 20 | 92 | | flour | 88 | 95 |
| | up | 26 | 60 | | good | 21 | 90 |
| 42. Working | labor | 147 | 18 | 57. Boy | girl | 319 | 32 |
| | hard | 105 | 299 | | man | 104 | 61 |
| | busy | 51 | 49 | | child | 86 | 45 |
| | man | 50 | 93 | | play | 20 | 84 |
| | men | 6 | 51 | pants | 6 | 63 | |
| 43. Sour | sweet | 349 | 75 | 58. Light | dark | 231 | 99 |
| | vinegar | 91 | 53 | | darkness | 93 | 0 |
| | lemon | 78 | 57 | | sun | 85 | 29 |
| | milk | 31 | 124 | | lamp | 82 | 251 |
| | pickles | 26 | 89 | bright | 47 | 74 | |
| 44. Earth | ground | 166 | 223 | 60. Bible | book | 338 | 224 |
| | dirt | 115 | 102 | | religion | 89 | 4 |
| | clay | 71 | 0 | | holy | 57 | 68 |
| round | 61 | 82 | God | | 43 | 124 | |
| 46. Soldier | man | 189 | 95 | read | 31 | 116 | |
| | army | 137 | 63 | 62. Sheep | animal | 225 | 117 |
| | war | 94 | 203 | | lamb | 151 | 79 |
| fight | 17 | 160 | wool | | 143 | 411 | |
| 47. Cabbage | vegetable | 394 | 140 | 63. Bath | water | 339 | 295 |
| | plant | 48 | 27 | | clean | 120 | 197 |
| | green | 44 | 21 | | cleanliness | 109 | 1 |
| | eat | 30 | 193 | | wash | 102 | 48 |
| | leaves | 11 | 62 | 64. Cottage | house | 461 | 425 |
| 48. Hard | soft | 367 | 65 | | home | 85 | 101 |
| | stone | 102 | 113 | | country | 36 | 6 |
| | wood | 66 | 30 | | lake | 5 | 117 |
| | rock | 38 | 92 | 65. Swift | fast | 222 | 391 |
| work | 19 | 89 | slow | | 190 | 28 | |
| 49. Eagle | bird | 566 | 373 | | quick | 117 | 10 |
| | fly | 46 | 129 | | run | 19 | 292 |
| | flying | 23 | 10 | horse | 28 | 124 | |
| | wings | 16 | 49 | 66. Blue | color | 256 | 318 |
| 50. Stomach | food | 192 | 82 | | sky | 239 | 102 |
| | body | 99 | 78 | | green | 54 | 1 |
| | organ | 81 | 0 | | dress | 18 | 173 |
| | ache | 31 | 189 | 67. Hungry | food | 136 | 55 |
| eat | 45 | 193 | eat | | 126 | 337 | |
| sick | 10 | 85 | eating | | 64 | 5 | |
| 51. Stem | flower | 259 | 367 | bread | 26 | 173 | |
| | leaf | 96 | 11 | 68. Priest | minister | 178 | 168 |
| | plant | 74 | 25 | | church | 166 | 271 |
| | flowers | 7 | 89 | | clergyman | 62 | 0 |
| long | 18 | 89 | Catholic | | 36 | 111 | |
| 52. Lamp | light | 659 | 648 | 69. Ocean | water | 427 | 413 |
| | oil | 49 | 38 | | deep | 87 | 23 |
| | chimney | 37 | 18 | | sea | 75 | 86 |
| | burn | 20 | 79 | | waves | 45 | 86 |
| | glass | 8 | 59 | 70. Head | hair | 159 | 203 |
| 53. Dream | sleep | 339 | 272 | | body | 146 | 26 |
| | vision | 48 | 4 | | foot | 64 | 0 |
| | night | 42 | 299 | | brains | 32 | 137 |
| | bed | 11 | 73 | | eyes | 10 | 91 |
| 54. Yellow | color | 391 | 320 | 71. Stove | fire | 217 | 164 |
| | white | 79 | 5 | | heat | 213 | 117 |
| | orange | 47 | 81 | | hot | 86 | 209 |
| | dress | 9 | 129 | | warm | 32 | 127 |
| flower | 38 | 105 | | | | | |

| Stimulus Word | Response Word | Frequencies | | | | | |
|---------------|---------------|-------------|----------|--------------|---------|-----|-----|
| | | Adults | Children | | | | |
| 72. Long | short | 413 | 45 | sleeping | 41 | 16 | |
| | distance | 81 | 6 | night | 11 | 106 | |
| | length | 50 | 25 | lay | 8 | 109 | |
| | far | 8 | 90 | | | | |
| | grass | 4 | 75 | 88. Heavy | light | 273 | 54 |
| | big | 1 | 55 | | 177 | 39 | |
| 74. Whiskey | drink | 232 | 279 | | iron | 70 | 213 |
| | liquor | 70 | 97 | | hard | 38 | 178 |
| | alcohol | 50 | 15 | | load | 57 | 72 |
| | beer | 46 | 108 | 89. Tobacco | smoke | 387 | 466 |
| | drunk | 31 | 138 | | smoking | 88 | 28 |
| 75. Child | baby | 193 | 185 | | pipe | 69 | 79 |
| | infant | 122 | 3 | | chew | 28 | 214 |
| | boy | 64 | 90 | 90. Baby | child | 238 | 172 |
| | children | 0 | 94 | | infant | 168 | 20 |
| | girl | 45 | 93 | | small | 42 | 90 |
| 77. Hammer | nail | 185 | 218 | | cry | 37 | 119 |
| | nails | 98 | 186 | | little | 12 | 97 |
| | tool | 69 | 11 | 91. Moon | light | 231 | 155 |
| | pound | 51 | 288 | | sun | 120 | 14 |
| 78. Thirsty | water | 341 | 377 | | stars | 93 | 10 |
| | dry | 218 | 132 | | night | 66 | 128 |
| | drink | 206 | 304 | | bright | 52 | 115 |
| 79. City | town | 256 | 110 | 92. Scissors | cut | 347 | 802 |
| | New York | 99 | 2 | | sharp | 190 | 35 |
| | country | 74 | 86 | | cutting | 114 | 48 |
| | Minneapolis | 0 | 218 | 93. Quiet | still | 136 | 300 |
| | big | 9 | 124 | | noisy | 113 | 18 |
| 80. Square | round | 250 | 35 | | rest | 68 | 4 |
| | block | 71 | 300 | | noise | 50 | 70 |
| | table | 47 | 5 | | sleep | 24 | 72 |
| | corner | 7 | 83 | 94. Green | grass | 284 | 272 |
| | oblong | 32 | 95 | | color | 200 | 237 |
| 81. Butter | bread | 206 | 467 | | yellow | 54 | 6 |
| | milk | 101 | 47 | | dress | 6 | 100 |
| | yellow | 80 | 117 | 95. Salt | pepper | 142 | 29 |
| | eat | 34 | 122 | | sugar | 88 | 23 |
| 82. Doctor | physician | 213 | 6 | | taste | 87 | 21 |
| | medicine | 149 | 136 | | bitter | 40 | 110 |
| | sickness | 104 | 34 | | meat | 18 | 99 |
| | sick | 52 | 448 | | white | 36 | 97 |
| | man | 68 | 132 | 96. Street | road | 91 | 60 |
| 83. Loud | noise | 205 | 201 | | city | 82 | 8 |
| | soft | 165 | 13 | | walk | 78 | 88 |
| | noisy | 112 | 11 | | dirty | 5 | 85 |
| | holler | 16 | 180 | | car | 10 | 79 |
| | talk | 12 | 130 | 97. King | queen | 354 | 50 |
| 84. Thief | steal | 212 | 320 | | ruler | 162 | 170 |
| | robber | 126 | 229 | | crown | 63 | 124 |
| | burglar | 118 | 64 | | rule | 10 | 107 |
| | | | | 98. Cheese | butter | 136 | 49 |
| 85. Lion | animal | 326 | 205 | | milk | 106 | 32 |
| | tiger | 102 | 13 | | food | 91 | 17 |
| | beast | 67 | 95 | | eat | 67 | 251 |
| | fierce | 36 | 119 | | mouse | 13 | 128 |
| | eat | 1 | 109 | | yellow | 32 | 76 |
| 86. Joy | happiness | 215 | 25 | 99. Blossom | flower | 467 | 486 |
| | sorrow | 135 | 0 | | flowers | 73 | 93 |
| | pleasure | 121 | 6 | | apple | 50 | 87 |
| | happy | 71 | 260 | 100. Afraid | fear | 197 | 14 |
| | glad | 27 | 203 | | dark | 114 | 151 |
| | fun | 6 | 182 | | scared | 106 | 290 |
| 87. Bed | sleep | 345 | 453 | | dog | 1 | 73 |
| | rest | 132 | 17 | | | | |

The preceding table shows in a striking manner how dissimilar are responses given by children from those given by adults. Only for 39% of the stimulus words is the most frequent response the same for both adults and children. Only for five stimulus words are the three most frequent adult responses also the three most frequent child responses. These stimulus words, with their responses, are sheep (animal, lamb, wool), thirsty (water, dry, drink), thief (steal, robber, burglar), scissors (cut, sharp, cutting) and blossom (flower, flowers, apple).

It may be observed that the response given most frequently by the adults is less apt to be one of the three most frequent children's responses than is a response given most frequently by the children to be one of the three most frequent of the adults' responses. The favorite adult reaction is one of the three most frequent of the children's in 59 per cent of the cases, while the children's favorite reaction is one of the adults' three most frequent in 74 per cent of the cases. Now it is shown in Chapter VIII that there are more adult responses not given by children than there are children's responses not given by adults. We may consequently conclude that the adult responses differ from children's not so much because of the dropping off of the children's responses as by the occurrence of additional responses. Of course the occurrence of additional responses causes a decrease in the percentage of the child responses given by adults. The range of adult responses is, however, broader than that of the children's. The adults retain what the children have and acquire much more besides.

It is of interest to note, further, how the absolute frequencies of the three preferred reactions of adults and children compare with each other. The average frequency of the favorite adult reaction is 264 (median 252), of the favorite children's reaction 270 (median 251). The number of adults' frequencies over 400 is 7, and of children's, 16. The number of adult frequencies over 300 is 34, and of children's, 36. The percentage of the entire 90,000 responses included by the three most frequent words is, for adults, 46% and for children, 48%. It is evident, then, that, with the list of stimulus words here used, there is not

much difference between children and adults in the average frequency of the favorite reaction. This result is very interesting when compared, with the findings of Saling, Reinhold and Römer.¹

¹ See Chap. II, pp. 10-13 and 20-21.

CHAPTER VIII

INDIVIDUAL RESPONSES AND TOTAL NUMBER OF RESPONSE WORDS

The tendency of children, as compared with adults, to give individual responses has not hitherto been properly set forth. We will show that previous experimenters have not succeeded in reaching a general answer to the question whether children give more individual responses than adults. With the list of stimulus words we have used, children give decidedly fewer individual associations than adults.

A great deal of misunderstanding must exist regarding this matter, as nearly all experimenters (Ziehen, Wreschner, Saling, Reinhold and the Rosanoffs) have been cited to the effect that children give distinctly fewer common associations (and hence more individual association) than adults.¹ That the work of these experimenters has been incorrectly interpreted, we believe can be easily pointed out.

In the first place, Ziehen did not draw any conclusion concerning common and individual associations. He could not, because to do so requires frequency tables, and Ziehen had no frequency tables. It is true that Ziehen concluded that the commonest effect of the stimulus word in children is to call up an individual representation (*Individualvorstellung*). But the term, individual, as here used by Ziehen, is far from meaning an association not given by others. It means a concrete image as contrasted with a general idea.

Considering next the work of Wreschner, we have simply to observe that conclusions concerning the tendency of children to give individual associations, a matter which has to be determined statistically, can not very safely be drawn from an investigation employing but 2 subjects, both under 6 years of age.

¹ See Whipple G. M., 'Manual of Physical and Mental Tests,' 2d Ed., Part II, 1915, p. 60.

Saling did not consider the matter of individual associations, but made merely a comparison of children and adults with respect to the frequency of the favorite, or most frequent, reaction.²

Reinhold, like Saling, did not consider the matter of individual associations, but merely the variation with age in the average frequency of the favorite response. On this point his data are materially different from those of Saling.³ If it be said that these investigators show that the most frequent reaction has a higher frequency with adults than with children, and that *consequently* children must be supposed to give a larger number of individual associations, we can only ask, who has shown this? Our own data, and, on this point, there are no other at hand, show no such relation between the frequency of preferred responses and the total number of responses. We find the average frequency of the most frequent response to be very nearly the same in both children and adults whereas we find that adults give a decidedly larger number of individual associations.

We come, lastly, to the investigation made by the Rosanoffs. What the Rosanoffs actually showed is that younger children give a larger percentage of responses not found in the Kent-Rosanoff adult tables than do the older children. This conclusion should not be misleadingly stated by saying simply that children give more individual associations than adults. That children would give adult responses less often than adults seems clear. When, however, one says that children give more individual associations than adults, he implies that they give more responses with a frequency of only one. This is not the case, as will be seen below.

In order, now, to show the tendency of children, as compared with adults, to give individual associations, we give merely the number of associations in both the children and adult tables with a frequency of one. With children, we take as individual responses, those which have a frequency of only one in our children's (written) frequency tables. With adults, we take as individual responses, those with a frequency of one in the Kent-Rosanoff tables. This means we follow the same procedure with

² See Chapter II, p. 10, 11.

³ See Chapter II, p. 13.

both children and adults that Kent and Rosanoff do in the case of adults. We shall not, however, make any distinction between 'doubtful'⁴ reactions and individual reactions. We define as an individual association, then, any response occurring only once in a frequency table of 1,000 responses. This is a technical definition. Broadly speaking, we regard as an individual association any association not commonly given by persons of the class in question. In order to get figures, it is necessary to agree on some standard for determining whether an association is commonly given. We arbitrarily agree to call uncommon an association found only once in a thousand cases.

The figures on individual associations, as defined above, for both adults and children, are given in the accompanying table.

INDIVIDUAL RESPONSES, NINETY STIMULUS WORDS

| Stimulus | Children | Adults | Stimulus | Children | Adults |
|---------------|----------|--------|--------------|----------|--------|
| 1. Table | 49 | 66 | 51. Stem | 69 | 57 |
| 2. Dark | 50 | 70 | 52. Lamp | 37 | 39 |
| 3. Music | 45 | 92 | 53. Dream | 77 | 117 |
| 4. Sickness | 54 | 81 | 54. Yellow | 66 | 79 |
| 5. Man | 59 | 111 | 55. Bread | 46 | 52 |
| 6. Deep | 49 | 70 | 57. Boy | 85 | 105 |
| 7. Soft | 64 | 79 | 58. Light | 62 | 84 |
| 8. Eating | 46 | 82 | 60. Bible | 38 | 63 |
| 9. Mountain | 52 | 82 | 62. Sheep | 64 | 62 |
| 10. House | 55 | 96 | 63. Bath | 39 | 46 |
| 11. Black | 49 | 62 | 64. Cottage | 48 | 75 |
| 14. Hand | 65 | 80 | 65. Swift | 51 | 77 |
| 15. Short | 75 | 101 | 66. Blue | 64 | 65 |
| 16. Fruit | 23 | 61 | 67. Hungry | 87 | 92 |
| 17. Butterfly | 29 | 77 | 68. Priest | 54 | 91 |
| 18. Smooth | 41 | 91 | 69. Ocean | 40 | 58 |
| 20. Chair | 24 | 54 | 70. Head | 62 | 84 |
| 21. Sweet | 35 | 55 | 71. Stove | 30 | 44 |
| 22. Whistle | 45 | 84 | 72. Long | 95 | 116 |
| 23. Woman | 54 | 89 | 74. Whiskey | 41 | 94 |
| 24. Cold | 51 | 70 | 75. Child | 73 | 91 |
| 25. Slow | 30 | 131 | 77. Hammer | 46 | 51 |
| 26. Wish | 44 | 144 | 78. Thirsty | 28 | 47 |
| 27. River | 23 | 75 | 79. City | 53 | 78 |
| 28. White | 76 | 79 | 80. Square | 67 | 105 |
| 29. Beautiful | 33 | 109 | 81. Butter | 32 | 48 |
| 30. Window | 48 | 52 | 82. Doctor | 39 | 98 |
| 31. Rough | 68 | 121 | 83. Loud | 72 | 75 |
| 33. Foot | 68 | 69 | 84. Thief | 30 | 98 |
| 34. Spider | 56 | 77 | 85. Lion | 48 | 81 |
| 35. Needle | 24 | 35 | 86. Joy | 31 | 54 |
| 36. Red | 65 | 79 | 87. Red | 63 | 100 |
| 37. Sleep | 67 | 71 | 88. Heavy | 32 | 70 |
| 38. Anger | 68 | 175 | 89. Tobacco | 54 | 85 |
| 39. Carpet | 56 | 62 | 90. Baby | 33 | 58 |
| 40. Girl | 55 | 104 | 91. Moon | 23 | 49 |
| 41. High | 72 | 61 | 92. Scissors | 53 | 100 |
| 42. Working | 70 | 122 | 93. Quiet | 38 | 65 |
| 43. Sour | 53 | 50 | 94. Green | 60 | 80 |
| 44. Earth | 59 | 80 | 95. Salt | 62 | 89 |
| 46. Soldier | 48 | 88 | 96. Street | 84 | 72 |
| 47. Cabbage | 36 | 58 | 97. King | 32 | 75 |
| 48. Hard | 67 | 93 | 98. Cheese | 69 | 57 |
| 49. Eagle | 49 | 53 | 99. Blossom | 39 | 52 |
| 50. Stomach | 70 | 84 | 100. Afraid | 49 | 124 |

⁴ Kent and Rosanoff classify as 'doubtful' any response which occurs only once, but it is a grammatical variant of some other obtained response.

SUMMARY

| | Children | Adults |
|--------------------------------|----------|--------|
| Total number | 4,702 | 7,171 |
| Per Cent of all Responses..... | 5.2 | 8.0 |
| Av. per Stim. Word | 52 | 80 |
| Median per Stim. Word | 50 | 79 |

In the case of only five words, does the number of individual responses given by the children exceed that given by the adults. These five words are *high*, *sour*, *stem*, *sheep*, and *king*. The largest number of individual responses given by the children is 95, to the word *long*. The largest number given by the adults is 175, to *anger*. The adults give over 95 individual responses to each of 20 words. For 92 per cent of the words, the number of individual responses for the adults exceeds the median number for the children. It is clear, then, that children give decidedly fewer individual associations than adults.

Besides the percentage of individual responses, that is, of responses of a frequency of one, it is of interest to note the percentage of responses of other frequencies. This is shown in the following table, which gives the percentage of the total number of responses, made up by responses of various specified frequencies.

PERCENTAGES (OF ALL RESPONSES) COMPOSED BY RESPONSES OF VARIOUS FREQUENCIES

| Frequency | Percentage of all Responses | |
|-------------|-----------------------------|--------|
| | Children | Adults |
| 1 | 5.2 | 8.0 |
| 2—9 incl | 12.4 | 13.6 |
| 10—99 " | 39.3 | 37.7 |
| 100—199 " | 16.8 | 16.0 |
| 200—299 " | 10.1 | 10.7 |
| 300—399 " | 7.7 | 10.2 |
| 400 or over | 8.5 | 3.8 |

In this connection, it is interesting to note that adults give more of the children's responses than do children of the adults' responses. To show this, we have determined, first, the number of responses given by adults not occurring in our children's frequency tables (written responses) and, second, the number of responses given by children not occurring in the Kent-Rosanoff tables. The adults give 8,847 words which do not occur in our children's frequency tables. These words have a combined or total frequency of 19,742. The children, on the other hand, give only 5,253 words not occurring in the Kent-Rosanoff tables. The total frequency of these words is 12,510. These results are in accord with the general fact, already noted in another con-

nection,⁸ that the adults tend to keep the children's responses, while acquiring new ones. This is what we should expect, since evidently all the children's responses are responses which adults could give and would give occasionally, whereas a great many of the adult responses involve associations that are hardly possible for the child, if for no other reason, on account of his limited experience and speech endowment. The adults' experience *includes* the child's experience.

Lastly, we may consider the total number of different response words given. The data are given in the accompanying table.

TOTAL NUMBER OF RESPONSE WORDS, NINETY STIMULUS WORDS

| Stimulus | Children | Adults | Stimulus | Children | Adults |
|---------------|----------|--------|--------------|----------|--------|
| 1. Table | 104 | 124 | 51. Stem | 103 | 120 |
| 2. Dark | 104 | 114 | 52. Lamp | 63 | 78 |
| 3. Music | 84 | 172 | 53. Dream | 125 | 185 |
| 4. Sickness | 123 | 145 | 54. Yellow | 104 | 149 |
| 5. Man | 150 | 169 | 55. Bread | 83 | 104 |
| 6. Deep | 112 | 119 | 57. Boy | 159 | 174 |
| 7. Soft | 163 | 155 | 58. Light | 117 | 142 |
| 8. Eating | 127 | 168 | 60. Bible | 91 | 128 |
| 9. Mountain | 103 | 142 | 62. Sheep | 106 | 110 |
| 10. House | 144 | 184 | 63. Bath | 71 | 93 |
| 11. Black | 112 | 109 | 64. Cottage | 80 | 142 |
| 14. Hand | 148 | 146 | 65. Swift | 89 | 127 |
| 15. Short | 138 | 159 | 66. Blue | 108 | 116 |
| 16. Fruit | 70 | 123 | 67. Hungry | 136 | 173 |
| 17. Butterfly | 81 | 145 | 68. Priest | 92 | 161 |
| 18. Smooth | 116 | 137 | 69. Ocean | 69 | 110 |
| 20. Chair | 77 | 107 | 70. Head | 115 | 163 |
| 21. Sweet | 82 | 95 | 71. Stove | 57 | 91 |
| 22. Whistle | 114 | 151 | 72. Long | 178 | 178 |
| 23. Woman | 129 | 163 | 74. Whiskey | 71 | 152 |
| 24. Cold | 118 | 123 | 75. Child | 115 | 162 |
| 25. Slow | 128 | 204 | 77. Hammer | 76 | 109 |
| 26. Wish | 106 | 232 | 78. Thirsty | 52 | 86 |
| 27. River | 73 | 127 | 79. City | 109 | 131 |
| 28. White | 125 | 135 | 80. Square | 122 | 195 |
| 29. Beautiful | 110 | 182 | 81. Butter | 58 | 101 |
| 30. Window | 88 | 102 | 82. Doctor | 68 | 151 |
| 31. Rough | 156 | 201 | 83. Loud | 115 | 140 |
| 33. Foot | 112 | 127 | 84. Thief | 86 | 170 |
| 34. Spider | 105 | 126 | 85. Lion | 93 | 137 |
| 35. Needle | 61 | 72 | 86. Joy | 88 | 172 |
| 36. Red | 112 | 138 | 87. Bed | 72 | 112 |
| 37. Sleep | 105 | 129 | 88. Heavy | 109 | 158 |
| 38. Anger | 99 | 281 | 89. Tobacco | 64 | 122 |
| 39. Carpet | 106 | 135 | 90. Baby | 104 | 150 |
| 40. Girl | 123 | 169 | 91. Moon | 75 | 110 |
| 41. High | 130 | 120 | 92. Scissors | 36 | 181 |
| 42. Working | 127 | 221 | 93. Quiet | 96 | 167 |
| 43. Sour | 89 | 91 | 94. Green | 96 | 122 |
| 44. Earth | 109 | 163 | 95. Salt | 107 | 146 |
| 46. Soldier | 91 | 159 | 96. Street | 119 | 163 |
| 47. Cabbage | 80 | 126 | 97. King | 135 | 120 |
| 48. Hard | 110 | 156 | 98. Cheese | 60 | 146 |
| 49. Eagle | 89 | 109 | 99. Blossom | 63 | 99 |
| 50. Stomach | 123 | 162 | 100. Afraid | 92 | 189 |

SUMMARY

| | Children | Adults |
|---------------------------------|----------|--------|
| Total Number | 9,183 | 12,871 |
| Average per Stimulus Word | 102 | 143 |
| Median " | 105 | 142 |

⁸ See Chapter VII, p. 97.

The total number of response words is greater with adults in the case of all but 6 stimulus words. These 6 stimulus words are *soft*, *black*, *hand*, *high*, *long* and *king*. They each have an opposite or coordinate similar to an opposite (as *hand*,—*foot* and *king*,—*queen*) which, in accordance with the general rule, absorbs a much larger portion of the adults' responses than of the children's. The largest array of responses given by the children occurs with the word *long*, to which they give 178 responses, whereas the adults give as high as 281 responses to the word *anger*, and give over 200 responses to each 5 words. For 89 per cent of the stimulus words, the number of responses given by the adults is larger than the median number given by the children. Of the 12,871 adults' response words, 8,847, or 69 per cent, are not given by the children; while of the 9,183 children's response words, 5,253, or 57 per cent, are not given by adults.

CHAPTER IX

COMPARISON OF ORAL AND WRITTEN RESPONSES

Since the Kent-Rosanoff data were obtained orally, while ours were obtained in writing, it seemed desirable to check up our data with results obtained orally. This we did, as already explained, in the case of the first 9 words. We find that the written and oral results, taken as a whole, are essentially similar. Since the 9 words used constitute a fair sample of the whole list, it may be presumed that our results are valid no matter which method is used.

In the preceding chapters, we have drawn conclusions concerning the differences between children and adults on the following points:

1. The frequencies of various association types.
2. Preferred reactions and their frequencies.
3. Individual responses and the total number of response words.

We shall proceed to compare, on each of these points, the responses obtained orally and those obtained in writing. By putting the Kent-Rosanoff data on adults alongside our data on children, we will show that every conclusion we have drawn holds for the children's oral responses as well as for their written ones.

1. **The Frequency of Various Association Types.**—We give below the total number of associations of each type obtained in response to the first 9 stimulus words. In the first column, is given the number of children's written responses, in the second, the number of children's oral responses and in the third, the number of adults' responses. That the 9 words here considered are fairly representative of the total results, is shown by the fact that for most types the ratios between children and adults are roughly the same for the 9 words as for the total results.

TOTAL FREQUENCIES OF VARIOUS ASSOCIATION TYPES
NINE STIMULUS WORDS

| | Association Type | Children | | Adults (Oral) |
|---------------------------------|------------------|----------|-------|---------------|
| | | Written | Oral | |
| Preferred by Adults | Contrast | 143 | 282 | 1,680 |
| | Noun-Abst. Att. | 15 | 0 | 73 |
| | Part-Whole | 0 | 0 | 0 |
| | Superordination | 96 | 102 | 352 |
| | Participles | 93 | 133 | 360 |
| | Coordination | 271 | 356 | 564 |
| | Cause-Effect | 136 | 138 | 313 |
| Preferred by Children | Verbs | 1,037 | 1,058 | 136 |
| | Verb-Object | 463 | 453 | 296 |
| | Noun-Adj. | 838 | 818 | 420 |
| | Adj.-Noun | 1,093 | 1,075 | 715 |
| | Contiguity | 1,381 | 1,281 | 581 |
| | Whole-Part | 203 | 211 | 158 |
| | Subordination | 533 | 415 | 333 |
| | Pronouns | 30 | 35 | 1 |
| | Sound Similarity | 86 | 76 | 4 |
| | Word Compounding | 105 | 100 | 109 |
| Equally Frequent in Both Groups | Similarity | 360 | 406 | 563 |
| | Effect-Cause | 44 | 39 | 91 |
| | Material | 33 | 26 | 78 |
| | Non-Specific | 748 | 737 | 595 |
| | Miscellaneous | 15 | 10 | 1 |

The agreement between the children's oral data and their written data is so close that there can be little question but that all our conclusions would hold as well for the one as for the other. It is interesting to note, however, that orally the children give nearly twice as many associations by contrast and also more coordinates and more participles than they do in writing. They seem, further, to give fewer subordinates and fewer associations of the class verb-object. These differences may not be reliable, but they seem sufficiently marked to suggest that somehow they are correlated with the difference in method. Just why children should give opposites orally more frequently than in writing is hard to say. It can hardly be due to any difficulty in writing, since many words which are written infrequently as opposites are written very frequently when they form associations of some type more characteristic of children. This whole matter of the difference between the mental attitudes in writing and speaking should be made the object of a special investigation. The results here obtained suggest one method.

2. Preferred Reactions and Their Frequencies.—In the adjoining table, will be found the three most common reactions for each of the nine stimulus words used orally.

| Stimulus | THREE MOST FREQUENT RESPONSES | | |
|-------------|-----------------------------------|---------------------------------------|---------------------------------------|
| | Written Children | Oral Children | Adults (Oral) |
| 1. Table | 358 eat 126 dishes 70 legs | 331 eat 115 dishes 56 legs | 267 chair 76 wood 75 furniture |
| 2. Dark | 421 night 80 black 57 see | 410 night 100 black 98 light | 427 light 221 night 76 black |
| 3. Music | 198 piano 153 sing 79 sweet | 236 sing 166 piano 66 notes | 180 piano 95 sound 68 song |
| 4. Sickness | 116 doctor 105 bed 95 ill | 131 bed 116 doctor 94 ill | 142 health 115 death 71 illness |
| 5. Man | 168 work 82 hat 45 person | 153 work 68 hat 57 big | 394 woman 99 male 44 boy |
| 6. Deep | 257 hole 145 water 87 well | 244 hole 162 water 76 well | 180 shallow 134 water 93 ocean |
| 7. Soft | 138 pillow 57 bed 57 cotton | 122 pillow 71 cushion 65 cotton | 365 hard 53 pillow 34 easy |
| 8. Eating | 178 bread 108 table 54 food | 152 bread 113 table 103 food | 170 food 166 drinking 46 bread |
| 9. Mountain | 390 high 91 hill 61 snow | 432 high 104 hill 50 climb | 246 high 184 hill 90 valley |

The table shows that the dissimilarity between the preferred responses of children and adults is as striking with the children's oral responses as with their written. The average frequency of the children's most frequent response is 246 with the oral data, and 247 with the written data. The total frequency for the three preferred responses for all nine stimulus words is 3,891 with the children's oral results, and 3,776 with the written. With such close agreement between the oral and written data in the preferred responses and their frequencies, it is clear that any conclusions on these points hold equally well for oral and for written data.

3. Individual Responses and Total Number of Response Words.—The total number of response words given to a stimulus word is, on the average, exactly the same for the written and for the oral data, and the number of individual responses is nearly the same. Our conclusion that adults give more individual responses and also a larger total number of response words than children evidently holds for the oral data as well as for the written. The figures are as follows:

| Stimulus Word | NUMBER OF INDIVIDUAL RESPONSES | | TOTAL NUMBER OF RESPONSE WORDS | | | |
|-----------------------|--------------------------------|------|--------------------------------|----------|-------|------------------|
| | Children | | Adults (Oral) | Children | | Adults (Oral) |
| | Written | Oral | | Written | Oral | |
| 1. Table | 49 | 47 | 66 | 104 | 103 | 124 |
| 2. Dark | 50 | 59 | 70 | 104 | 113 | 114 |
| 3. Music | 45 | 47 | 92 | 84 | 102 | 172 |
| 4. Sickness | 54 | 53 | 81 | 123 | 110 | 145 |
| 5. Man | 59 | 75 | 111 | 150 | 161 | 169 |
| 6. Deep | 49 | 57 | 70 | 112 | 107 | 119 |
| 7. Soft | 64 | 77 | 79 | 163 | 160 | 155 |
| 8. Eating | 46 | 39 | 82 | 127 | 112 | 168 |
| 9. Mountain | 52 | 51 | 82 | 103 | 100 | 142 |
| Total Number | 468 | 505 | 733 | 1,070 | 1,068 | 1,308 |
| Av. per Stimulus Word | 52 | 56 | 81 | 119 | 119 | 145 |

CHAPTER X

GENERAL SUMMARY

The present work contains children's association frequency tables for each of 100 stimulus words. The tables are composed of the responses of 1,000 Minneapolis school children, from 9 to 12 years of age inclusive, all in the fourth and fifth grades.

The list of stimulus words contains 90 words of the Kent-Rosanoff list. A comparison is made in the case of these 90 words between the children's associations and the associations of adults as shown by the Kent-Rosanoff tables.

The chief points established by this comparison may be stated as follows:

1. In general, children's associations differ enormously from those of adults.

2. Marked differences exist between children and adults in the frequency of various types of association. The types which occur more frequently with adults than with children are the following: contrast, superordination, coordination, part-whole, noun-abstract attribute, participles and cause-effect. The types which occur more frequently in children than adults are the following: verbs, verb-object, noun-adjective, adjective-noun, pronouns, sound similarity, contiguity, whole-part and, less definitely, subordination and word-compounding. No reliable difference was found between the groups with respect to the following types: similarity (in meaning), material, effect-cause, non-specific reactions and a miscellaneous group. The results concerning associations of the class, effect-cause, are not regarded as very reliable.

3. With only 39 per cent of the stimulus words, is the most frequent response the same for both children and adults. Only with five words, are the three most frequent responses the same for both children and adults.

4. The frequency of the favorite, or most frequent response,

is about the same for both groups, as is also that of the three most frequent responses. Thus the medium frequency of the favorite response is 251 for children and 252 for adults, while the percentage of all responses included by the three preferred responses is 48 for children and 46 for adults.

5. Children give fewer individual responses than adults. Defining as individual responses, those with a frequency of only one in the frequency tables, it may be said that, on the average, children give only fifty-two individual responses to a stimulus word, whereas adults give eighty.

6. The number of different words given in response to any stimulus word is less with children than with adults, being, on the average, 102 with children and 143 with adults.

7. The adults give more of the children's response words than the children do of the adults'. Thus, the adults give 8,847 words not given by the children. These words have a combined frequency of 19,742. The children, on the other hand, give only 5,253 words not given by the adults. Their combined frequency is 12,510. Moreover, in the case of any stimulus word, the children's favorite response is more apt to be given frequently by adults than is the adults' favorite response to be given frequently by children. Thus, the favorite adult response is one of the children's three most frequent in 59 per cent of the cases while the children's favorite response is one of the adult's three most frequent in 74 per cent.

The preceding conclusions have general validity only in so far as the list of stimulus words used can be called representative. They are not dependent upon the manner in which the responses are given, since they hold as well for oral responses as for written. They hold likewise for children of each of the four age groups used, since the differences with age found in the children is slight as compared with the differences between children and adults.