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METHODS OF STUDYING CONTROLLED WORD ASSOCIATIONS

by

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A DISSERTATION

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History and Development of the Word Association Method.

The first experimental work on the word association method was published in 1879 by Francis Galton (1). He prepared a list of 75 words to each of which he obtained one or several free associations, using himself as subject. The list was repeated four times in different environments, and the results convinced him that the associations are not governed to any extent by memory. It took 660 seconds to form the 505 ideas, which persuaded him that the mental process he was investigating could not be revery or continuous association. Of the 505 associations only 289 were different, so there was much less variety in the ideas than he had supposed. He examined the relative number of associations coming from different periods of life, and found that one-half of them concerned events of youth. His associations fell into three classes, (1) imagined sounds of words, (2) sense imagery, (3) histrionic representations. His list of words he found to be of three types, (1) those that allow of mental imagery, (2) those that allow of histrionic interpretation, and (3) abstract words. For Galton, histrionic ideas always appear as the first association, verbal associations occur about equally as first or second association, and imagery usually comes second. Even at this early date Galton anticipated the application of the words association method to psychoanalysis.

In 1883 Wundt published an article on psychological methods (2) in which he proposed a statistical method of collect-

ing a large group of single associations for one subject, investigating their origin and getting the association time. He suggested, too, a correlation of results between normal and pathological subjects.

In the same year, Trautschold (3), a student of Wundt, made an extended investigation of the word association reaction, using the Hipp chronoscope and two Morse keys, which were released with the finger simultaneously with the speaking of stimulus and response word. He had four subjects and obtained averages on 40 to 256 words for the (1) simple reaction time, (2) the word reaction time, that is, simple reaction time to the apperception of a word, (3) the word discrimination time, which is (2) minus (1), (4) the association reaction time, and (5) the association time, which is (4) minus (2). It is this association time that he was most interested in. Its average for all subjects was 0,727 seconds. The association reaction time varied from 0,896 seconds to 1,154 seconds, for different subjects. Trautschold obtained further results in one type of controlled association where the response was required to be a subsumption. The association time here is higher than for free association, 0,874 seconds. He classified his 60 stimulus words into three classes, concrete objects, words expressing conditions, and abstracts, and found that the association time is increasingly longer for each class. He further gives a classification of the associations into inner and outer associations with various subgroups.

Cattell, in 1886, working in Wundt's laboratory, was the next to take up the problem. His first paper (5) gives the time it takes to see and name objects. He exposed through a slit various objects on a revolving drum and got the reaction times with the Hipp chronoscope. For letters the time is $1/2$ second. He finds that a slit width such that two letters are exposed at once shortens the time $1/40$ second, and on up to five letters which shortens the time $1/200$ second. The time for words having no connection is $1/4$ second per word, for words making sentences $1/8$ second. He gives results also on the comparative time for different size letters, types of script, foreign words, colors and pictures of objects. Cattell's second paper (6) in the same year gives results for simple reaction time to light and sound, and shows that the reaction time is shortest for a concentrated state of attention, greater for normal attention and longest for distracted attention, when the distraction is continuous adding and the stimulus is light or an electric shock. These variations in reaction time are slight however, but sufficient for him to argue for a theory of attention. After getting further results on distraction Cattell concludes that (1) the ordinary degrees of attention do not affect the reaction time, (2) perception and willing are not factors in the reaction time, for they are not necessary for the motor center to act. The willing is done before the stimulus occurs and merely sets the brain paths in a state of readiness. The perception time is the interval between sensation and perception. It

is not possible to add a perception to a simple reaction without adding also a will act. Altering the perception does not change the will time making it possible to study the perception time. The subject was required to discriminate between two black discs, one with a white spot. By subtracting the simple reaction time from this time we get the perception time, which was 61 sigma and 95 sigma for the two subjects. He repeated this procedure for different colors, and got longer times. He found that practice lowers the perception time. The discrimination time for letters is longer than for colors, and for words only slightly longer still, for pictures it is about the same as for colors. Cattell studied the will time by requiring the subject to react to two stimuli with the two hands respectively. He found this perception time plus will time greater than for the perception time. This holds true for speech reactions, and stimulus colors, pictures, letters and words. He has results also on the time taken to see and to name letters, words colors, and pictures. Attention has little effect on this reaction time, there is a practice effect during two years work and fatigue is manifested through an increase in the reaction time after the first two or three reactions of a series. After this there is no further increase. In 1887 Cattell gave further results on the association of ideas (7). He gives the time required to name objects in a foreign language, for translating words of different lengths into English and German, and various kinds of controlled associations, (1) where there is only one possible answer, (2) where the answer allows of some choice, (3)

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where choice is freer than in (2), (4) where a judgment must be made. Cattell continued his work in 1889, collaborating with Bryant (8). They give results for free association to 500 concrete nouns, proper nouns and abstract nouns, verbs and adjectives, for the authors, and for 10 concrete nouns and 10 abstract nouns for University graduates (men), Bryn Mawr students and German symnasium students. The association reaction time varied from a little more than one second to seven seconds, according to the mental development of the group, and the type of stimulus word. Abstract nouns gives a longer time than concrete nouns. The authors next found the average time per word to write continuous associations for each word in three groups of nouns for 20 seconds, using school, college and graduate students as subjects. The reaction time decreases with growth and education. There is a slightly faster rate as the class rank is higher. The number of words written decreases as the series is continued, indicating fatigue or decrease in attention. There are more associations to concrete than to abstract words. There is a summary of all the response words for all subjects for each stimulus word, forming a small lexicon of the most frequent associations. The associations are further classified as objective and logical, with subgroups.

Scripture, 1892 (9), investigated the problem of mediate association. The subject was first shown a series of cards each having on it a word and some kind of a sign. Another series was then given with the same signs and different words.

The first series was then repeated without the signs, and to each word the subject was asked to name any word in the series occurring to him. If the sign is the link then the two words with the same sign should be associated. Scripture found no mediate association in a great many cases, but out of the 185 experiments there were 79 cases of mediate association, from which Scripture concludes that the phenomenon is possible.

Münsterberg (10) repeated Scripture's method more extensively but got entirely negative results.

Bourdon, 1893 (13), obtained results on the character of the response word for certain types of controlled associations; (1) letters or letter couplets as stimuli requiring word responses gave responses with a large amount of phonetic and syllabic similarity, (2) stimulus letters requiring letter responses gave rise to contiguous letters or to letters having a phonetic similarity, in about an equal number of cases, (3) stimulus letters requiring colors as responses gave rise to associations usually marked by phonetic similarity, (4) free word associations were usually determined by meaning, with phonetic similarity playing only a chance effect. Names of objects and acts are associated with words of the same class, qualities with qualities and objects. Some people give answers coming under fewer categories, which indicates a logical mind.

Howe, 1893, (14), made observations on the problem of mediate association. A repetition of Scripture's technic gave

negative results. Howe argues that free associations alone can give data regarding the existence of mediate association.

Bergström, 1894, (15), studied the interference of different associations upon each other. The subject was required to sort 80 cards into 10 piles, each containing 8 cards with the same pictures. In the second trial the position of the piles was changed giving an interference effect. Bergström concludes that the interference effect of an association bears a constant relation to the practice effect, and is, in fact, equivalent to it.

Calkins, 1894 (16), investigated the relative significance of frequency, vividness, recency and earliness in the formation of associations. The method was to expose a color and a number successively, and after an interval another color and number. After the series was finished the subject was shown the colors alone in altered order, and asked to write down what number was suggested, if any. Devices of repeating the same colors with different numbers, the same color with the same number, of having certain colors and numbers occur always at the beginning of the series, or at the end, were made use of to secure data on the factors under investigation. In every case the more frequent, recent or vivid associations formed the largest number of correct recalls of numbers. The frequency factor was found more effective than primacy, vividness than recency, and frequency than recency.

Jastrow, 1894, (17), made a study of the community and association of ideas. Sixty-nine students were shown 10

words, one at a time, and told to write the first five words suggested to them. This gave 69 lists of 50 words each. He then classified the reactions into two groups, giving the number of different and the number of unique responses, in each of the five places in the association series. "The proportion of different words, as also of unique or once-used words, increases as the associations proceed." Data on men and women indicated that there is less community of associations among women, which the author thinks due to too limited data. A few results are given on the frequency of certain associations. The associations are also divided into nine categories and compared.

Jerusalem, 1894 (18), made a report of a single case of mediate association. A scene long since forgotten appeared suddenly to the mind of the individual as he was deeply engrossed in his work. But the connecting link, at first apparently unconscious, was found to be the unnoticed fragrance of a flower in the room, that had been in the original scene.

Smith, 1894 (19), investigating mediate association, obtained entirely negative results as had Münsterberg. Scripture's technic was used in a modified form with no results.

Wundt, 1894 (21) comments on Jerusalem's case of mediate association. He claims that the connecting link was not unconscious but only unnoticed; it was perceived but notapperceived.

Aschaffenburg, 1896 (24), studied free associations in normal individuals. He divided his associations into different subgroups under internal, external, clang and mere reac-

tion associations. In the first experiment a word was given for the subject to write 100 continuous associations. These were classified as above. In the second experiment 100 single free associations were obtained from each subject. Experiments were also made similar to these, getting reaction times with the lip key. The author found that external associations occur more often than internal associations and the reaction time is shorter. The reaction time varied from 1180 to 1426 sigma, and the author concludes that the reaction time does not distinguish normal from abnormal. It was noted that the same stimulus word frequently led to the same response in different individuals.

Aschaffenburg next investigated the effect on association of extreme exhaustion (24), which was induced by working continuously all night without food. The same procedure was followed as in the previous experiment. He found that more associations of long standing occur, content becomes a weaker factor and clangs are frequent and appear first at the height of the exhaustion. The number of repeated responses does not increase during the night and the exhaustion lengthens the reaction time only slightly. The clangs, words completions and rhymes are a sign of the reaction degenerating into a pure motor reaction. In 1904 (24), he obtained 12,900 reactions and 6150 reaction times on 11 pure manic depressive cases, using only one and two syllable stimulus words, and found that during excitement the results are the same as for exhaustion. Alcohol and hunger also give these same results. In the de-

pressive state there are no variations in content from the normal, although the reaction time increases.

Calkins in 1896 (25), continued her work on association along the same lines as before, to see the effect of suggestion. She uses suggestion in the sense of potency of the different factors, recency, frequency, vividness and primacy to form associations. Frequency is shown to be the strongest factor. A monograph (26) incorporates these results along with an analysis of the association process.

Kraepelin, 1896 (27), enumerated the psychological methods adapted to psychiatry among which the association method occupies the major position. He emphasizes the necessity of a careful interpretation of lengthened reaction times in pathological cases, and regrets that much of the previous work with this method has been useless. He reviews the work of Cattell and Münsterberg, and points out the importance of securing data on the content of associations and their stability, and on continuous associations.

Calkins, 1898 (30), investigated the tendency to combine ideas which are unconnected in their presentation. She presented one series of pairs of words visually, one series orally, and one series of paired pictures of objects. The subject was to write an introspection in regard to the concomitant imagery. She finds that in 30.8 percent of the 638 cases, the subject has combined the two concepts into one image picture. Nearly one half of the subjects show the tendency to combination in one third of all possible cases. She also obtained results on associations with childhood exper-

iences as first suggested by Galton. The subjects were 90 Wellesley students and 84 people in middle life or advanced age. The stimulus words were 15 objects connected with childhood. The results showed that even the older group had less childhood associations (33.4%) than Galton (39%), while for students there were only 14.7%. The number of recent associations form 30.9% and 32.7% of the total respectively for the older and younger group; for Galton these came only to 15%. Calkins thinks we live largely in the present which accounts for the results.

Ziehen, 1898 (34), added another to the numerous classifications of associations. He divides them into spontaneous and judgment associations with various subgroups.

Sommer, 1899 (35), discusses methods of classification of associations and gives the characteristics of the associations for certain pathological types.

Wreschner, 1900 (38), investigated the associations in a case of idiocy. He found that (1) the quality of the stimulus word has great influence on the kind of association, and the quality of the reaction is less the greater it is for the stimulus, (2) the reactions are predominantly adjectives, (3) content associations have longer reaction times than clang associations, (4) the poorer the quality of the association and the less familiar the stimulus word, the longer the reaction time, which holds for both clang and content associations, (5) practise shortens the reaction time and improves the quality of the association.

Kellor, 1901 (40), investigated associations in white and negro criminal and workhouse women, and compared them with results for University students (women?). Three types of tests were used, (1) free continuous associations written for one minute in response to each of a group of words, (2) free continuous associations in response to direct stimulation of the five senses by appropriate stimuli, (3) constrained associations, and (4) free continuous written associations to certain abstract terms. All stimuli were well within the range of the low grade of education of the subjects. The author first compared the different subjects in regard to the distribution of the associations into the various types of imagery. For all subjects visual imagery predominates. Since the negro women could not write, the second experiment was devised and given only to them and to the white women criminals and workhouse inmates. Again visual imagery predominates. The rate of association for students was double that for criminals and the workhouse class. Comparison was not possible with the negroes. By the second method the rate is higher for negroes than for whites (exclusive of students), due to the elementary form of the negro associations, and to the fact that the reaction for negroes were spoken, for whites written. The difference in rate between students and white criminals and negroes is due to the fact of the latter's deficient mental training, and to their greater tendency to suppression. In students the free associations tend to be progressively away from the first word, or of mixed form; the

associations of criminals of poor education tend to refer more often directly to the initial word. Data was secured from the associations to abstract words on the ethical, educational, and environmental conditions of the various classes. The author thinks the differences are not so much those between criminals and normals as between educated and uneducated. He fails to emphasize however the importance as a causal factor of feeble-mindedness which must have existed to a large extent in the criminal classes he worked with.

Thumb and Marbe, 1901 (41), found that the associations are often reversible. This holds for adverbs, adjectives and pronouns, but not for numbers to which the usual response is a higher number. The associations to all these classes are mostly words belonging to the same class. This holds true also for words expressing family relationship.

Mayer and Orth, 1901 (42), made a qualitative study of associations and concluded from their results with free associations that (1) the response word can occur with or without the intermediate occurrence of a conscious experience between it and the stimulus, (2) the reactions are quicker when no conscious experience intervenes, (3) the reactions are quicker the fewer the intervening conscious experiences, and (5) reactions are longer when the intervening conscious experience is a will act than when it is not. These conscious experiences are in most cases without feeling tone, but its presence increases the reaction time.

Bourdon, 1902 (43), obtained results on the frequency of identical response words to 100 stimulus words for 100 sub-

jects of the same grade of intelligence and education.

Schmidt, 1902, (44) obtained the same results with verbs that Thumb and Marbe had with other parts of speech. He made a more extended investigation in this one group than had his predecessors, using 14 conjugation forms of 30 verbs on 8 ten year old boys. This gave 3360 reactions. He found that the verb responses predominate and formed 89% of all responses, forms of the same verb being more frequent and of shorter reaction time than of other verbs.

Claparede, 1903 (45), made an analytic study of association, including a bibliography of over 300 names. He discusses disputed problems in association, including those under laboratory investigation.

Fuhrmann, 1903 (46), found that in idiots as contrasted with epileptics the ability to form supraordinate and subordinate associations decreases.

Pieron, 1903 (47), attempted to explain introspectively the failure of the experimentalists to verify mediate association. He conceives of mediate association as the arousal of medially associated images of subconscious ideas.

Euleur, 1904 (51), in his introduction to the paper of Jung and Riklin discussed the importance of the study of association. All mental processes involve the association of ideas so that a thorough knowledge of the associations is essential to an understanding of other mental activities. Every association is made up of a group of more or less connected ideas, which is called a constellation, and every associative

activity is the product of the whole psychic being of the past and the present, with all its experiences and strivings. It is an index then of all mental activity, which we only need to solve to know the whole man. Bleuler recommends the method of single associations rather than continuous associations, and claims already to diagnose with the association method, dementia praecox, epilepsy, imbecility, hysteria, and hopes soon to be able to differentiate types of paranoia.

Jung and Riklin, 1904 (53), made an extended investigation into the associations of normal subjects preliminary to a study of pathological subjects. Four hundred stimulus words of one, two and three syllable adjectives, nouns, verb, adverbs and numbers, in random order were used. The reaction time was taken between the accented syllable and the response. The authors obtained 12,400 associations from 9 educated men and 14 educated women, 7 uneducated men and 8 uneducated women. The first 200 words were given as simple free associations in the usual manner. On the next 100, introspections on the free associations were secured as far as possible. During the last 100 words the subjects made pencil marks at different rates following the beating of a metronome. Six subjects also took tests during fatigue; one on waking in the morning and one in a period of irritation. The responses were classified according to an extremely lengthy and detailed system, from which they conclude that (1) external associations are more frequent in educated than in uneducated persons, making the reaction time of the latter longer, (2)

changes in association are due to changing attention. Its relaxation causes an increase in inferior associations, its concentration causes an increase in inner associations, (3) mental disorders characterised by low concentration have therefore a tendency toward external associations, (4) clang associations in manic flight are due to attention disorder not to motor disorder as Aschaffenburg maintained, (5) when the attention is artificially lowered, the type of association is the same superficially as for flight of ideas, fatigue, acute alcoholism and other pathological types.

There are two general types of reaction in normal subjects, (1) a type using the adjective frequently and certain accentuated reactions indicating an emotional personal reaction, due to the arousal of a complex constellation, a simple constellation or merely egocentricity of the predicate type, (2) an objective impersonal type, with whom verbs usually give rise to noun responses, adjectives to nouns, verbs to nouns or verbs, and adjectives to nouns and adjectives.

Jung, 1904 (54), obtained results on the associations in an epileptic. A study was made of 158 epileptics yielding 18,277 reactions. The stimulus words included 75 concrete and 25 general nouns, 50 adjectives and 50 verbs. Only the one case of epilepsy is reported in detail. The subject was neither an idiot or an imbecile, and the epilepsy onset was at the age of forty. His results follow:

1. Traits in common with associations in normal individuals.

- a. The subject adjusts himself to the meaning of the word as do uneducated subjects.

- b. Associations are partly determined by a morbid complex.
2. Traits in common with associations of imbeciles.
 - a. The adjustment to the meaning of the first word is so great that many associations must be taken as 'explanations'.
 - b. Associations have sentence form.
 - c. Reaction times are longer than the normal.
 - d. Words are often repeated.
 3. Traits different from normals or imbeciles.
 - a. The explanation is clumsy; there is much tendency to make additions to the reactions.
 - b. The reaction is not stereotyped or limited except in being egocentric.
 - c. Emotional associations are not concealed.

Riklin, 1904 (57), obtained results on the associations of hysterical patients. He found that the hysterical type of reaction is an exaggeration of the dissociated complex type in normal people. There are more sentences, quotations, preservations, minus reactions, reactions pointing to a complex, and still longer reaction times.

Watt, 1904 (58), varied experimental procedure in association work by presenting the words visually, for free associations. He also obtained reaction times. His results agree with those of Thumb and Marbe in that adjectives, nouns, adverbs, names of relationship and numbers are usually associated with words of the same class. He also finds that associations are usually reversible, numbers however give higher numbers, which is also in agreement with Thumb and Marbe. He

verifies their law, too, that the reaction time diminishes with increasing frequency of the word, at first suddenly, then gradually. Results are higher for visual presentation; mental speaking of the stimulus word does not influence the form of the association.

Wehrlin, 1904-5 (59), obtained results on associations in 13 cases of imbecility and idiocy. These were from 17 to 68 years of age. He found that there are many responses with a sentence or a few words, with a tendency toward definitions. The results all indicate extreme narrowness of thought.

Wertheimer and Klein, 1904 (60), are given the honor by Gross their teacher for making the first application of the association method to criminal work. Their procedure was the usual one, a series of words both relevant and irrelevant to the guilty situation are given to the accused persons for free associations. The nature of the association and the length of the reaction time indicates the guilty person. They also used a method of telling the story of the crime with some modifications to all subjects. The innocent retell it as told to them, the guilty confuse it with the real situation.

Ach, 1905 (61), using exposure apparatus devised by himself, in connection with the Hipp chronoscope, investigated the relation of memory to simultaneous association. He found that retroactive and associative inhibition hold true for simultaneous as well as for successive associations.

Gross, A. 1905-6 (63), set forth arguments in favor of the association method for the detection of guilt and answered

charges against it, giving examples to emphasize his arguments. He is extremely optimistic in regard to the efficacy of the method.

Gross, A. 1905-6 (64), carried out an experiment with the association method to detect guilty knowledge. He used 50 relevant and 50 irrelevant words and got positive results on a large group of subjects.

Grabowsky, 1905 (65), expressed his scepticism in regard to the association method as a Tatbestandsdiagnostik. He considers it difficult to adapt the method so that intelligible instructions can be given to any class of people, and is particularly convinced that the emotions aroused in the innocent by the accusation militates against the efficacy of the method.

Jung, 1905 (68), investigated certain peculiarities of the reaction time for free associations. The reaction time is shorter for men than for women, for educated than for uneducated persons; concrete words give faster reactions than general concepts, adjectives faster ones than verbs. The reaction word influences the association time, general concepts come slowest, adjectives fastest; external associations are faster than internal and clang associations. Jung, 1905 (69), further developed the association method for psychiatric purposes, by observing the effect of repeating the list of stimulus words. He found that words touching on complexes give new responses as well as giving longer reaction times. Irrelevant words duplicate their responses. Jung, 1905, (70), claims priority over Wertheimer and Klein in the use of the association method for the detection of guilt.

Kiesow, 1905 (71), revived the problem of mediate association. His conclusions bear out most previous experimental results that there is no spontaneous arising of ideas. The mediating links are in marginal consciousness.

Kramer and Stern, 1905 (72), carried out an experiment in the application of the association method to the detection of guilt. They had seven subjects each taking part in one of three situations, (1) hearing a story read, (2) seeing a picture, or (3) going through an action. Their results were positive but they are a little sceptical as to the safety of the method, especially of diagnosis on the basis of long reaction times. The content of the association they consider a safer guide.

Peters, 1905 (73), investigated free associations where the response was the report of an experience. The results showed that in memories, pleasant experiences predominate over unpleasant ones, although indifferent ones predominate over both. Memories of recent events have more unpleasant details than distant memories.

Riklin, 1905 (74), after giving a lengthy history of a case of hysteria with the results of hypnotic treatment, analyzes the results of 100 associations in the subject. His results agree with those on hysteria published the previous year, and form the basis of definitions of a number of clinical types of hysteria.

Schultze, 1905 (75), investigated the influence of age upon associations, after the manner of Thumb and Marbe's tech-



nic. His results for children agree with those for adults by Thumb and Marbe, that is, that there is a preference for associations between similar word groups. The author also tests the method for the detection of guilty knowledge and concludes that its value is limited.

Thumb, 1905 (76), continued his previous work into investigation regarding the corruption of certain verbal forms by others. He found that associations are usually between words of the same word group, which is the philological condition for their corruption. The associations of children would not account for verbal corruption.

Arnold, 1906 (77), gives a resume and criticism of the historical development of the theoretical aspect of association and its laws and brings together for comparison the classifications of associations used by various investigators.

Baldwin, 1906 (78), investigated the results for associations under the influence of different ideas. He found the difference in effect of two words spoken one immediately after the other on the course of the association. Pictures and groups of two or three words were also used. The second and fourth are respectively more effective than the first and third. Concrete nouns are more efficient than abstract, proper nouns than common nouns, and wholes than parts.

Jung, 1906 (81), reports a case of detected theft in a young man by means of the association method. He admits that the method is a delicate one and profitable only in the hands of the experienced.

Lederer, 1906 (83), expressed his conviction that nothing useful is to be expected from the new methods of detecting guilt through the association method either in its present form or after its improvement.

Levy, 1906, (84), criticised the current method of obtaining free associations. It is an unnatural situation to be required to give the first word occurring to one in response to a single word stimulus. He obtained results on the spontaneous and casual free associations in insane patients, who often react to a word not addressed to them. The author criticised the previous classifications of associations as being logical not psychological. He adheres to the "constellation" concept and attempts to show the influence of constellations in a few results on insane patients, Levy, 1907 (84), continued his investigation. He concluded that the only legitimate classification of reactions is, (1) unquestionably normal reactions, (2) reactions doubtful whether normal or abnormal, (3) unquestionably abnormal reactions. He makes various subgroups under each of these. He emphasizes, however, the impossibility of classifying simply from the objective point of view.

Messer, 1906 (85), investigated the thought process by means of free associations and 13 types of controlled associations. These were, coordinate object, coordinate concept, adjectives, concept attribute, subordinate concept, and various judgments on paired words of different kinds. Introspections were detailed, and indicated the presence of both visual and

motor elements. The associations are usually of meaning, sometimes clang, though the visual images do not assist in the meaning. The author gives a classification of judgments, differentiates between particular and general thinking, and many other psychological categories of the thought process.

Pick, 1906 (86), investigated the effect of persistent vocal motor activity on the associative processes of the mind. Experiments were made on two pathological cases. An idea of an object was presented and suggested until it was firmly fixed in mind. Then when asked the names of certain objects, the previously impressed object idea was usually given as response and the object used as if the suggested object. Pick claims this phenomenon to be pathological only in the matter of intensity and degree.

Wertheimer, 1906 (87), made further investigations into the validity of the association method in the detection of guilt. He found that both subjective evidence on the part of the subject, and objective evidence substantiates it as a legitimate method. Critical words give critical responses by the guilty person, or if these are inhibited, the reaction time is long and the response is superficial or nonsensical. Critical words often give rise to identical superficial responses. All this Wertheimer considers as conclusive of the method's adequacy.

Fürst, 1907 (89), investigated the influence of sex, age, education and family on associations. She concludes from her results that all children under 16 years have more inner as-

sociations than the mother, and all children over 16 years have more outer associations than the mother. Husbands incline more toward outer associations than their wives, and this is also true for sons as compared with their sisters. Children differ more among themselves than from their parents, they differ more from the father than from the mother, and daughters are more like the mother than sons like the father. All these comparisons refer to their free associations on the basis of Fürst's classification.

Jung, 1907 (90), took up Veraguth's psychogalvanic reflex method and devised a method for recording the oscillations on a smoked drum. He then obtained records during a series of free associations on various pathological subjects. The curve remains more or less of a straight line until a word appears that touches upon a complex, when there is a corresponding rise of the curve.

Meumann, 1907 (91), investigated the effect of different types of instruction on the reaction time and the content of the association. The first type of instruction was to react as quickly as possible leaving everything else to chance. The second type of instruction was to react only after the meaning of the word was grasped, and to react logically. The same series of words was used on each subject for each type of instruction. He found two classes of subjects; one group gave exceedingly quick reactions on the first instruction, but they were largely habit associations, on the second instruction the reaction times were longer, but the

associations were essentially of the same character. The other group became confused on the first instruction and so lengthened their time, while on the second instruction they were more composed and reacted more quickly and concretely. The author argues against a mixture of these two types of instruction.

Severance and Washburn, 1907 (92), examine the loss of associative power in words with long fixation. A word was fixated for three minutes, and a complete introspection of the subjective course of the phenomenon was recorded. Meaning disappeared after a few moments fixation, also its auditory motor image. Other images disappeared one by one until the word seemed only a group of strange marks. The author explains the phenomenon as due to the fact that the visual image is less closely associated with the meaning of a word than the vocal, so that when the latter vanishes the meaning goes with it.

Watt, 1907 (93), observed the influence of the rapidity of successive stimulus words on the associations. Nouns in series of 21 or 13 were rotated at different rates on a revolving drum before a slit. The maximum rate for different subjects varied; at higher rates the subject had to omit associations to some words. The optimum rate for most subjects was approximately one word per second. Some subjects give nouns more often, some adjectives, but no subjects give more verbs, and some give no verbs at all. Repetitions occur more often in the second series after the series in which they were first used.

Wreschner, 1907-1909 (94), investigated in a thoroughgoing manner the reproduction and association of ideas. He obtained reaction times with the Hipp chronoscope on 22 individuals, 15 educated adults, of whom 10 were men and 5 women, 5 uneducated adults, of whom 3 were men and 2 women, and 2 boys respectively 3 and 2 years old. His material consisted of 200 concrete object nouns, 147 abstract nouns, 188 adjectives, and 144 verbs. Presentation of stimuli was usually auditory, sometimes visual. His experiments were in three groups.

I. Associations were free and no stimulus words were duplicated. There were 6792 reactions in this group. He gives the average reaction times for these reactions which vary from 1337 sigma for educated men to 3348 sigma for the children. There are interpretable variations for sex, age and education. The reaction times for adjectives are shorter than for concrete objects, which in turn are shorter than for abstract concepts. According to introspection the reaction time is affected by ^{the} degree of apperception of the word, the concomitant imagery, and recent events. His results agree with Thumb and Marbe, and others in finding that the associated words usually belong to the same class, especially for fast reaction times.

II. The associations were free in this group also, but certain stimuli were repeated at intervals of not less than a week and in a different context. This gave 3338 reactions. He concludes that the variety of reactions to a given word indicates the number and strength of reproduction tendencies.

The variety of reactions decreases with progressive repetition of a stimulus word. This is most for adjectives and least for abstract nouns. Variety of reactions increases with education and age, and is more for men than for women.

III. In this group were obtained 5541 reactions from various types of controlled associations. He found that the reaction time varies according as the choice of response is narrow or wide. Education has less influence here. The author argues against a purely objective criterion for the laws of association. Subjective evidence is essential to a valid knowledge of the factors that play a part in associative reproduction.

Saling, 1908 (95), sought to corroborate the results of Thumb and Marbe in children. She used 34 girls of 7 and 8 years, and for stimulus words those of Wertheimer, Klein and Gross. Her results do not confirm the assumption of symmetrical associations with definite constellations, nor do they agree with the results of Schultze on 18 adults. Saling gives a frequency table of 800 associations as a preliminary effort in this direction.

Stein, 1909 (98), used the free association method on actual criminals and accused persons. The group included all classes of society, education and temperament. The nature of the associations themselves often betrays the person's guilt but frequently the associations are nonsensical or uninterpretable, though further analysis might lead to their elucidation. The reaction times was much greater on the critical

words than on the indifferent words. In the control subjects the averages were quite constant. The author emphasizes that the chief hope of the method for success lies in a careful choice of critical words.

Yerkes and Berry, 1909 (99), carried out four laboratory experiments on the application of the association method to the detection of crime. In the first, two acts were arranged, for the experimenter to decide which the subject had done; in the second, the experimenter must decide which of two subjects had done a certain act. In both these experiments there were longer reaction times, and greater range and variability on the relevant words. In the third experiment which was similar to the first, results were too uncertain to warrant conclusions. A repetition of the second experiment gave positive results.

Bovet, 1910 (100), made a brief study of the frequency of identical response word to a given stimulus word for a group of individuals, with the purpose of determining the co-efficiency of this frequency.

Franz, 1910 (102), employed the association method of diagnosis on a patient. The experiment failed due to the fact that the subject had beforehand planned his associations, which the experimenter learned only after questioning the patient. Franz considers the method inadequate except when used in conjunction with introspection.

Freud, 1910 (103), reviewed the history of psychoanalysis, showing how the free association method as applied to psychoanalysis was the natural outcome of the hypnosis method because of the difficulty of hypnotizing many patients.

Geissler, 1910 (104), made an introspection of his consciousness during the word association experiment, when used to detect guilt. He gives an analysis of the differences in the mental content for critical and for irrelevant words, and concludes with a definition of a complex as a "strongly unpleasant group of ideas (connected with the concealed object) reinforced by certain organic sensations".

Jung, 1910 (106), reviewed his work with the association method, with a discussion of the "constellation", and the psychology of the child. The associations on critical words, especially in hystericals, may be marked by long reaction times, elaborated response words and repetitions of the stimulus words. He gives an example of the application of the method in detecting crime. The association method does not give data on intellectual types. All variations for people of different education can be traced to a mere emotional difference, not one of intelligence. There are three types of reaction, (1) objective and normal, (2) complex type caused by constellations," (3) definition type.

Kent and Rosanoff, 1910 (107), using a list of 100 stimulus words investigated the frequency of identical responses in 1000 normal and 247 insane persons for free associations. The results are put in the form of frequency tables. The subjects included people of all ages, both sexes, various occupations, degrees of mentality and education, and from different localities; the insane were of all types of disorder. For normal people the authors find that 90% of the reactions are com-

mon, and that age and sex have no effect on the frequency. The authors attempt a new classification of responses on a purely objective basis. The general conclusion is that it appears to be universal among normal persons to give in response to any stimulus word one of a small group of common reactions. There is a gradual transition in this respect from the normal to the pathological as regards different types of disorder, and different degrees of disorder in a given type. There are certain characteristic tendencies of various types.

Langfeld, 1910 (108), observed the effect of negative instruction on the associations. A series of pictures of objects were presented visually; the subject was instructed to respond with a word other than the name of the object. Introspections were taken and the series repeated. The author concludes that both a positive and a negative 'Aufgabe' is carried out. The negative 'Aufgabe' is a check on certain associations. Even in positive attitudes, the negative quality is active, which is analogous to Freudian inhibition. Suppression is strengthened by practice.

Leach and Washburn, 1910 (109), made tests on mental diagnosis of guilt with the association method. Two separate experiments were made with all but one of 26 individuals giving 51 experiments in all. When the judgment was made by author H.M.L. on the basis of reaction time and the response word, there was only one failure for the whole series. M.F.W. independently judged the results on the basis of the associations alone and was successful in only 34 out of the 52 experiments. The authors argue then the superiority of the re-

action time over the association as a guide to diagnosis.

Nunberg, 1910 (110), found that associations connected with a complex are accompanied by greater movements of the hand and arm than are indifferent associations. At the same time the complex causes a decrease in the amplitude of respiratory movements.

Ohms, 1910 (111), devised a method for measuring inferior associations. He gets the time required for a forgotten datum to be recognized, the longer time indicating a greater depth of the association below the threshold.

Reinhold, 1910 (112), made a study of the frequency of identical associations in children. There were 30 each from 10 successive grades, from 7 to 17 years. Free associations are given for 46 stimulus words as a contribution to a frequency lexicon. He concludes that there is for each word a favorite reaction word, that children show greater individual differences in their reactions than adults, and that for children, individual reactions do not indicate superior intelligence, nor clang associations inferior intelligence.

Ritterhaus, 1910 (113), criticised severely the practical use of the association method. He shows that Jung himself has drawn false conclusions from his own data, and gives results of his own to show how precarious their interpretation is.

Rusk, 1910 (114), investigated associations in children and found no correlation between age and reaction time, or between imagery and reaction time, which leads him to argue that thought is possible without imagery.

Dauber, 1910 (116), found that the preferred association is related to the repeated association, to the frequency with which the stimulus word and the reaction word occur in ordinary language, and to clang association. Nonsense syllables give meaningful reaction words in spite of instructions to give nonsense syllables and there are favorite associations here also, showing that this preference is not dependent on the close association between stimulus and response.

Foucault, 1911 (118), concluded from results for associations with numbers and nonsense syllables that association is not merely a result of resemblance. This plays a part only when the resemblance is conscious.

Huber, 1911 (120), repeated Reinhold's experiment on school girls, on soldiers to see the effect of culture and environment. He concludes with Jung and Riklin that uncultured subjects are more influenced by the meaning of the stimulus word, also that the associations of a group are influenced by the general 'atmosphere' of the group.

Langfeld, 1911 (121), continued his work on negative instruction, to see the effect of drugs on association, reproduction and suppression. The only effect was to decrease the reaction time. Results for pathological patients showed no variation in reproduction or suppression, except in some cases of dementia praecox.

Levy-Suhl, 1911 (122), attempted to classify pathological cases into different groups on the basis of association reactions. The subjects are classified into four groups which

agree extremely well with the clinical findings.

Ley and Menzerath, 1911 (123), also investigated the association in types of mental abnormality, supplementing their results with introspections. They find characteristic differences in the associations of normal and abnormal persons, and each type of abnormality has its own peculiar reaction type.

Wells, 1911 (124), enumerated certain properties of the free association time as the result of 12,000 reactions on men and women subjects. He thinks the quickness of the response is conditioned by linguistic and imagery factors, dominance of certain associations, intellectual acceptability of the first word thought of and the emotional value of the word. The author thinks that most responses are not free at all. The time for strictly free association is 1000-2000 sigma and this variation may be due to variations in the stimulus words or to individual differences. The time is shorter for educated people, and longer for women, though this latter may be due to the fact that the experimenter was a man. Wells agrees with previous investigators who have found the longest reaction times for abstract nouns and the shortest for concrete nouns and adjectives. His results show the shortest time for concrete nouns, next longer for adjectives and longest for abstract nouns. When series are repeated there seems to be a practice effect on words whose reaction times are originally high. Long reaction times are not necessarily connected with emotion; there are other factors such as failure to find a response intellectually satisfying and the failure of one association to predominate over the oth-

ers presented. Wells, 1911 (125), reduced his previous classifications of associations to five by telescoping them. The five are, (1) egocentric, (2) supraordinate, (3) contrast, (4) miscellaneous, (5) speech habit.

Wells and Forbes, 1911 (127), obtained results on the correlation between reaction time, introspective evaluation of the degree of emotion, and galvanometric deflection indicative of somatic changes. They found that the correlation between deflection and time is slightly closer than between introspection and time, and much closer than between introspection and deflection.

Whitley, 1911 (128), obtained results on sex differences for various types of association tests using the written method for both stimulus and response. She finds that the free association time for women is longer than for men, when the method is to get the time for a fixed quantity, and the reaction time is the same for both when the time is kept constant with instructions to accomplish as much as possible. With the opposites test, mature students improve more rapidly than do young students. The time is longer for this test than the free association test. The author rates the "complete the word" test as easier than the free association, because the subject is less suspicious of what is wanted, and parts of words are more suggestive of whole words than one word of another. The time for the subject-predicate test is about the same as for the opposites test, and practice effect is slight. The "difference between" test is a poor one. The Ebbinghaus

combination test is considered to be especially valuable with untrained subjects. The noun-adjective test is easy with an accuracy of 95%. All told, the easy opposites test is the best written test.

Woodworth and Wells, 1911 (129), reported on the methods agreed upon by the committee on the standardization of association tests. They hold that the association experiment does not measure the associative process but the familiarity with the particular associations. It serves however (1) to measure the speed of the formation of new ones, (2) for mental diagnosis, (3) as a measure of mental alertness. The written method is inferior to the oral, and the stop watch is justified for practical use; short lists are preferable to long ones, and the best method of instruction is by example and trial. Word stimuli must be familiar, unambiguous and uniformly difficult. The opposites test is most standardized in these particulars. The authors recommend further work with new stimulus words, after the manner of Kent and Rosanoff. In expressing results, the distribution curve is preferable to any simple measure, and the median is preferred over the average. They append a list of 1000 words, including those of Kent and Rosanoff, that are familiar and unambiguous.

Aptekmann, 1912 (130), using normal subjects made a study of sex factors in associations, supplemented by the psychogalvanic technic. There are two groups of subjects, one group of 5 who received 50 words six times weekly, the other of 4 subjects who received 25 words seven times daily. The authors

found that the number of changed responses decreases with repetition and there is less change in the daily series than in the weekly. The changed responses have longer reaction times and are more associated with the Komplexmerkmale. The galvanometer results show that the deflections tend to drop in the later series, though not always in correspondence with the reaction times. Deflections above the median are associated with greater change in response than those below. The effect of the sex of the experimenter and subjects was investigated in further experiments by both Jung and Aptekmann. Results were obtained on 6 men and 6 women. Women with a woman experimenter showed more constancy in their results, and with the man experimenter much greater deflections. The men subjects with a man experimenter give about the same results as women; with a woman experimenter much smaller deflections.

Atherton and Washburn, 1912 (131), attempted to establish mediate association in the Tichenerian sense, that the common link has never been in consciousness and remains at the physiological level. Subjects were instructed to react with a word having no association with the stimulus word. Recourse to surrounding objects was forbidden. The types of reaction found were, (1) stimulus has no associative effect (legitimate), (2) stimulus word starts a train of ideas which is interrupted on recalling the instructions (legitimate), (3) train of ideas not inhibited (failure), (4) meaning associations inhibited but not clangs (failure). The methods resorted to by subjects were reported as follows (1) word chosen

from recent experience, (2) word chosen from memories of remote surroundings, (3) verbal perseveration, (4) spontaneous occurrence of certain letters as initial letter for the reaction, (5) no reason at all, (6) stimulus word and response really associated but not recognized at the time, (7) true mediate association, where the link is physiological. The authors recognize the difficulty of drawing the line between the physiological and the marginally conscious, but claim to have gotten 77 successful mediate associations out of 662 reactions.

Pfenninger, 1912 (136), carried out an experiment similar to that of Aptekmann, but on a larger scale. The subjects were 8 normal persons, 4 women and 4 men, and 11 dementia praecox cases, 6 men and 5 women. Each subject was given 100 words for 8 trials, one every week. The reaction times for women are higher at first than for men but in the end shorter. The tendency to change responses is more pronounced in men than in women, decreases in both, more rapidly with the men at the end, with women at the beginning. Komplexmerkmale are more frequent in women, and do not decrease as much as those of men. Reaction times are longer for changed responses. Associations which change are attached to the more emotional constellations. In pathological cases the reaction time is 3 or 4 times longer than normal, and the difference is greater between men and women. At first the reaction times for women are shorter than for men. The curve for the dementia praecox men corresponds more closely to that for normal women, and

that of dementia praecox women to normal men. Another set of experiments on 6 women with a woman experimenter gave a result similar to that for dementia praecox men with a man experimenter. These results are suggestive of the importance of recognizing the sex factor in such work.

Wells, 1912 (138), in an analysis of 10,900 association reactions with 28 normal adults investigated the problem of association types. He found that there seems to be a normal type of response whose tendency is to give predicate, subordinate, contrast, and internal-objective responses, but not speech habit responses. This follows his later classification of associations. There is a negative relation between community responses and the egocentric category.

Wohlgemuth, 1912 (139), made investigation on the direction of associations. His stimuli were nonsense syllables, figures or colors in pairs or continuous series. He found that associations may function in either a backward or forward direction, especially when the associations are not kinaesthetic.

Kelley, 1913 (141), obtained free associations for 12 students using 100 stimulus words, and correlated these with their class standings in mathematics, science and foreign languages. He took the reaction time from the end of the stimulus word to the beginning of the reaction. He recommends the distribution curve as the best method of recording reaction times, and thinks the median superior to the mode or the average. On the basis of his classification of responses, he telescoped them into three small groups and correlated them

with the class standings of the student. He concludes that free association yields results indicative of the ability of individuals; that the best correlations are with mathematics, science and foreign language, and hopes that the association method may be adapted to determine the aptitudes of students.

Rosanoff and Rosanoff, 1913 (142), investigated associations in children to determine at what age the association types of adults become fully developed, what their rate is, and manner of development. The Kent and Rosanoff stimulus words were used; and results obtained for 300 school children from 4 to 15 years, 25 of each age, but not grouped in any other respects. The school grade was recorded, also the mental capacity as expressed by the teacher. The results show that below 11 years the associations are different from those for adults. In young children doubtful and individual reactions are numerous and there are many failures due to ignorance of the word. Common reactions are few. These effects are practically gone at 10 years. The rate of change is more rapid in the earlier years of growth. The rapidity of response increases with age. The correlations were positive between the associations and judgments by the teachers of "dull", "average" and "bright", and between the associations and school grade.

Sutherland, 1913 (143), made a critical investigation of the word association reaction, using the Vernier pendulum chronoscope to obtain reaction times. Fifteen thousand reactions on 25 normal college students were obtained for the

purpose of (1) analyzing the associations involving intellectual, emotional and inhibitory tendencies, (2) obtaining clues to the causes of these tendencies from the introspections, and (3) discovering to what extent the hypothetical entities of the Freudian school are operative in these reactions. Three lists of words were used (1) a group of 250 words containing 50 indelicate words, (2) a group of homonyms, (3) a group of other words. These were given to various groups of subjects, some with oral and some with written instructions. Failures included inappropriate responses, and are due to a conflict of muscle habits, rather than to a conflict intrinsically conscious. Introspection showed only 4 out of 204 failures to be accompanied by organic sensation, which the author considers evidence against the Freudian hypothesis. He finds also that the forward order of parts of speech in reactions is more frequent than the inverse order. Out of 2500 reactions, 220 were automatic, including rhymes, repetitions and clang associations. The classification of responses on a logical basis is considered to be invalid; a comparison of the distribution of responses according to the same classification by himself and a subject independently gave 10% variation. The problem of the role of the personality of the experimenter is raised by the author, and is considered a further evidence against a logical classification. Ambiguous words do not lead to inhibition. The author concludes that the free association method gives no demonstration of the type of associative process.

Wells, 1913 (144), claims that mental tests fail in practice, because they test only speed, complexity and retentivity, which are not necessarily factors that contribute to mental balance. Free associations are not an index of the thought processes but only of a certain external reaction. Jung has called the difference between the median and the average the coefficient of emotivity. Emotion however, says the author, is not the only factor which lengthens the reaction time. Women are of two types, one having reaction times longer than men, with greater depth of personality, one having reaction times shorter than men with less depth of personality. The women with the greater depth probably had greater emotional content; but they were the best successes in life, showing that mental balance is a function of the interplay of qualities. The attempt to get a more objective basis of classification of responses like that of Kent and Rosanoff is recommended. The author holds that results agree in claiming that education gives rise to a more concrete association type, and that women give more egocentric responses due to their affective sensibility. The author found close agreement between his judgment of the order of similarity of personality of a group of subjects, made on the basis of his classification of reactions, the judgment of a non-psychologist, and a judgment by the Kent and Rosanoff method.

Claparède, 1915 (146), made a study of the relative ability to recall free associations and associations given already formed. In the first experiment 15 pairs of associated words,

and 15 words for associations to be formed were given to the subjects. The subject wrote down the second term of each of the first group as they were read to him and the free associations to each of the second group. Immediately afterward the subject was required to write down the first term of each pair from memory. The ratio of correct responses was 87 to 51 in favor of the free associations. The same result was obtained when various terms of the stimulus words were substituted by numbers, though the absolute number of correct recalls was lower in each case. The author attributes the results to the fact that the mind 'creates' the free associations and the impressions are therefore more fixed than the given associations which come to the mind already 'created'. He thinks this has educational significance. It may be remarked, however, that the opposite is most likely the case, that free associations are remembered better because they are already "created", they already form a part of our stock of associations, while the given associations are purely artificial.

Crane, 1915 (147), made an analysis of the criteria used in the association method for the detection of guilty knowledge, more particularly with respect to the frequency of certain verbal forms of reaction and their reaction times; the effect of certain juxtapositions of stimulus words and the effect of ambiguous words. He used four types of stimulus words, (1) pairs of words of the form music-box, (2) pairs of the form beans - pork and, (3) a group of words ambiguous as to their part of speech, (4) a group in which each word was preceded

by an oral statement of a situation. Stimuli were presented visually. He found that adjective stimuli give the lowest reaction times, nouns next longer, and verbs the longest. When nouns are used as adjectives their reaction time is shorter than when used as nouns. The author thinks that according to the normal order of language, adjectives ought most often to give noun responses, nouns give verbs, and verbs give noun objects. He finds the first and third to be true but not the second, for nouns usually give noun associations. He considers this to be due to the completeness of a noun concept as opposed to the incompleteness of verb and adjective concepts. He thinks the reaction time is longest for verbs because this class has the greatest variety of possible responses to choose from. If an image precedes the verbal association, the reaction time is shortened, if it follows the reaction time it is lengthened; two or more images increase the reaction time still more, as do also emotion and conscious inhibition. The reaction time is short for habitual associations. The direct and indirect forms of influence in stimulus words such as music-box and box-music give about the same reaction time, though these are less than the average. The "and" type of influence, beans-pork and, does exist but it is the incompleteness of the "and" that is the prominent factor, and the habitual word is associated, not the preceding word, necessarily. The interpretation of an ambiguous verbal form is not influenced by the part of speech preceding it; nearly all are used as nouns. The effect of presenting a situation orally to the

subject before the stimulus word is given is positive in 70% of the cases, and causes a shortening of the reaction time. All these types of tests were incorporated into a practical application of the method to criminal diagnosis, with the hope of obtaining a more delicate diagnostic method, but the result was not successful. The circumstances of the artificial crime were made as realistic as possible, but the author concludes that the method cannot be depended upon for the detection of guilty knowledge.

Dooley, 1916 (148), made a study of normal complexes by means of the association method, as a test of the validity of the Freudian theories. The author concludes that the method does not give complete support to these theories in their entirety, as it fails to give data on certain essential points. Seven normal individuals and one hysterical acted as subjects, 154 words including Jung's list of 100 were used and reaction times were taken with the Hipp chronoscope. The words were presented visually and reaction was made by pressing a Morse key simultaneously with a reaction word or an image if this came first. Evidence of normal complexes was found to be extensive, using this term in a broader sense than Freud does, and the signs of these complexes were analyzed according to the results of the experiment.

Methods of Studying Controlled Word Associations

The history of the word association method shows that by far the greater part of investigation has been along only one aspect of this problem. The usual procedure in both normal and pathological fields has been to secure the first word freely associated with each of a group of stimulus words. Some investigators have varied the procedure by obtaining not only the first free association to a given stimulus word, but also the second and third on up to as many as a hundred free continuous associations with the original word. This latter procedure has obvious disadvantages which have militated against an extended use of it. The controlled word association, however, has had little investigation, because probably of the prevalent idea that free associations represent more truly the natural course of ideas in the individual. The classification of free associations has been attempted by practically every investigator as a natural consequence of the heterogeneity of types of responses obtained by this method. This difficulty is avoided in the controlled word association method, where the stimulus words are all of the same part of speech, and the response words by virtue of the instruction to the subject also are of one class. The problems then are many in this aspect of the problem because of the comparatively small amount of work as yet done.

The purpose of this investigation then was to consider the following fundamental and technical problems underlying the procedure of the controlled word association method, and to determine to what extent these must be taken into account

in a precise use of this method.

1. Does the length of the reaction time in controlled associations differ for the normal and inverse order of nouns and adjectives in the English language? That is, will the reaction time be longer or shorter when the stimulus words are adjectives to be responded to with nouns, than for the opposite, when the stimulus words are nouns to be responded to with adjectives?

2. Does the length of the reaction time vary systematically, when the stimulus words are nouns and the response words are adjectives, according to the logical categories into which the nouns fall? That is, will there be variation in the reaction time according as a stimulus noun is abstract, the name of an emotion, an inanimate object, or is in some other group of nouns of varying degree of concreteness?

3. Does the length of the reaction time vary according to the number of syllables in both adjective and noun stimulus words when the response words are nouns and adjectives, respectively?

4. Does the length of the reaction time vary according as the accent is on the first, second or third syllable of the stimulus word, for both types of reaction noted in 3?

5. If the same set of lists of adjective and nouns stimulus words are given for three successive days, requiring noun and adjective reactions, respectively, and with no additional instruction, will there be a systematic change in the reaction time from day to day, aside from any question of identical response to the repeated word?

6. Is there any variation in the length of the reaction time for normal and inverse directions of controlled double associations? If the stimulus word is an adjective, for an association to be made first to a noun (not spoken) and then to a verb as response word with this nouns as it subject, will the reaction time be longer or shorter than when the control is reversed and the stimulus word is a verb to associate back through a noun subject to an adjective modifying this subject?

A consideration of these questions will indicate, according to the results obtained from their solution, whether such factors are important in a precise use of the controlled word association method. Stimulus words in such work previously have had little consideration in these directions, except perhaps in regard to their emotional connotation in Psychiatric work, and in the choice of "easy" words for educational tests. And yet conclusions have been drawn from variations in reaction time, disregarding the possibility that such variations might well be within the normal limits of variation for the kind of stimulus word used, the length of the word, the accent and the type of control required.

Apparatus. The Johns Hopkins chronoscope, recently constructed by Dr. Knight Dunlap was used in this experiment to record the reaction times, and in connection with it Dunlap voice keys of the small model (97). The auditory method of presentation was used, both stimulus and response words being spoken. The chronoscope is essentially a synchronous motor driven by a 50 D.V. tuning fork. The motor has 10 poles so that the armature rotates 5 times per second. Attached to the

shaft of the armature is a horseshoe electro-magnet, which rotates with the shaft; anterior to these magnets is a fixed magnet facing the rotating one. A light circular metal disc lies between the two magnets, attached at its center to a light shaft perpendicular to it which passes through a brass bearing to the anterior face of the clock, where it is attached to the index hand. This sliding shaft moves back and forth according as the circular disc is attracted to the rotating or fixed magnet. When the master key of the voice key circuit (140) is closed, current flows first through the fixed magnets, which are in the branch of the circuit of the stimulus voice key, causing the disc to be attracted to this magnet, and then also through the rotating magnets. Since the current through both magnets is equal, the disc remains in this initial position. Speaking into the stimulus voice key breaks the current through the fixed magnet so that the disc is attracted to the rotating magnet. It then rotates with the armature shaft causing the hand of the clock to turn at the rate of the motor, 5 rotations per second. Speaking into the reaction voice key breaks the current through the rotating magnet so that the disc jumps back again to the fixed magnet and the hand stops. A spur gear on the shaft of the index hand meshes with a larger cog wheel on the dial, serving as a rotation counter. The dial itself is divided into 100 units, so that each unit measures 2 sigma. In using the chronoscope it is only necessary to set the hand at zero, press the master key before speaking the stimulus word, keep it down until after the response word is given, and then read

the reaction time directly.

The superiority of this chronoscope lies in the fact that it has no significant error, is extremely simple in operation, and runs continuously and noiselessly. It can run neither slow nor fast by the smallest fraction of time, else the motor gets out of step with the fork and stops. The only possible elements of error lie in (1) a possible change of vibration rate of the fork due to temperature changes, which could be obviated by enclosing it in a box with a thermostat, but which for this work is a negligible factor, (2) a possible error in the divisions of the dial, and (3) in a possible difference in reluctance of the disc between the magnets, in passing in opposite directions, due to a possible difference in the strength of the two fields.

The chronoscope will run continuously and noiselessly, if the brushes are kept well cleaned and oiled. Otherwise it will never stop unless something goes wrong with the fork contact. By experimenting, platinum wire was found impracticable for this, - it burns up too quickly and has not enough spring to give the optimum length of period of contract for the motor to "catch". A gold alloy wire was tried, the wire used in dental work, and found extremely satisfactory. The gauge of the wire and its length are important, but these two factors must be determined empirically. As the wire burns back, the contact must be readjusted to keep the optimum period of contact for the motor. Only when this fails does the motor stop. Adjusting and cleaning the contact about twice a day when it

is being used continuously all day has usually been found sufficient. The motor was run on the following voltage and amperage;

Voltage: 10 volts - closed fork contact, but not vibrating.
 30 " - broken fork contact.
 25.4 " - fork running on optimum contact for motor-motor dead.
 25.4 " - fork running, motor running.

Amperage: 1.3 amperes - closed fork contact, but not vibrating.
 .3 " - fork running on optimum contact for motor-motor dead.
 .3 " - fork running-motor running.

The motor is started by hand. It is equipped with a stroboscope if a higher rate is required, but for the low rate of 5 rotations per second a slight twist of the axle which soon gets to be a knack causes the motor to get in step immediately with the fork.

The experimenter and subject sat on opposite sides of a small table with a large black curtain stretched between so that the subject could see neither the experimenter nor any of the apparatus. The experimenter sat with the master key and the chronoscope on his right and the fork on his left, each on separate stands, so that neither could affect the voice keys, which are so sensitive that the passing wagons or a moving chair in an adjacent room often stops the clock. With this arrangement too, the experimenter could record results and regulate the fork contact without moving from his chair. The subject was given his instructions as to the type of response required and then given the list of words. The experimenter signalled

the subject before each word by saying "Ready". Since the motor was practically noiseless, the only possible distracting noise was the low hum of the fork, which might have been eliminated by enclosing in a padded box or placing it in another room. This was a constant, however, through the whole experiment and apparently was not noticed to any appreciable extent except by one subject who worked at night, when the building was absolutely quiet and all outside noises were at their minimum.

EXPERIMENT I.

Preparation of Material and Method of Procedure

The general plan of the whole problem was to secure a large number of stimulus words, - nouns, adjectives and verbs, - to be given to a group of subjects in order that eliminations might be made of unsuitable words on the basis of these reactions. This was called Experiment I. In Experiment II these revised words were given to a new group of subjects for more careful examination into the problems under consideration.

To this end a complete survey of an abridged Standard Dictionary of 300,000 words was made and all one, two and three syllables adjectives, nouns, and verbs, transitive and intransitive separately, were listed. A verb having both a v.t. and v.i. meaning was classed as v.t., so that the two verb lists comprised verbs which can take objects and which cannot, respectively. A large number of all these words were necessar-

ily omitted, falling into three classes,- (1) technical words, such as enzyme, arrhizous, modulus and titrate, (2) unfamiliar and archaic words, such as moil, bosky and morat, (3) obviously obscene or vulgar words. In this last list are included only such words as actually occur in the dictionary, and does not include words having their vulgar meaning only in a subtle and secondary sense. Separate consideration of these was made later. This made twelve lists of words, occurring in alphabetical order. To get these in random order, each list was cut up so that one word was written on each slip. These were put into a box, shaken thoroughly and drawn out one by one for relisting into groups of 40 words each. When the words were in final form there were found to be the following number in each class.

	<u>adjectives</u>	<u>nouns</u>	<u>verbs (tr)</u>	<u>verbs (intr)</u>
1 syll.	262	1832	796	219
2 syll.	975	2643	1033	231
3 syll.	737	1726	366	52

These groups of 40 each, were now ready for use. The general plan was to have two groups of subjects, one to work on the adjectives and nouns, the other on both classes of verbs. The associations were controlled, adjective stimuli requiring noun responses, nouns requiring adjectives, transitive verbs requiring objects, and intransitive verbs requiring subjects. As the words at this time were not yet all completely catalogued, the several groups of words were given in serial or-

der, the adjective-noun group of subjects going through the whole class of adjectives, in the successive order of one, two and three syllables, and on their completion going through the whole group of nouns in the same way. The verb group likewise first did the transitive verbs, and then the intransitive verbs. As noted above, the various classes were in groups of 40 each in this preliminary work, and four lists were given per hour on a 12 minute schedule,- that is, 12 minutes were allowed to a list, any time left over being given up to a rest period, during which the subject was allowed to do anything he pleased, converse with the experimenter, walk around or sit quietly. It was usually spent in irrelevant conversation. The remainder of the hour was allowed for possible breakdown of apparatus, preparation of material and other details. Each day then 160 words were given. In this experiment all subjects worked three hours a week on separate days, as far as possible at the same hour of the day. The one exception was subject Ro who reported only twice a week. He fell far behind the others of his group, and for this reason subject Li was secured to supplement his work. It will be observed therefore that the results of these two are not capable of intra-comparison to the extent of the others; Ro finished all adjectives, part of the one syllable nouns and all the two syllable nouns; Li did part of the one syllable nouns and all the two and three syllable ones.

Subjects were instructed as to the required type of response word, and told to speak the first word fitting this requirement as quickly as possible, even though the word was

not exactly precise. Subjects were frequently reminded not to inhibit reactions that they might think silly or vulgar; that the emphasis in this experiment was being put on the reaction time, not the reaction word, so they must feel free to react without inhibition. As thorough a spirit of informality as possible outside the working period was encouraged. All reaction times over 12 seconds were rejected arbitrarily as failures. The controls put upon the various types of stimulus words were,

adjectives - nouns
 nouns - adjectives
 verbs (tr) - nouns (objects)
 verbs(intr)- nouns (subjects)

Since the results on verbs have not been completely compiled, they are omitted entirely from this paper and no further mention will be made of the verb group, except to include the lexicon of selected, rejected and homonymous verbs with the adjectives and nouns. All statements hereafter refer only to the noun and adjective groups.

Four subjects were used in the adjective noun experiment, to give three complete sets of reactions for all the adjectives and nouns. All the adjectives were done by each of Ch, Po, and Ro, three syllable nouns by Ch, Po, and Li, two syllable nouns completely by Li and Ro, about half each by Ch and Po, one syllable nouns completely by Ch and Po, almost all by Ro and the rest by Li. The exact relation of the numbers of words done by each will be seen in the number of cases given in Tables, I, II, III, IV, V, VI, VII, remembering that these figures represent the number of successful responses, not

the entire number of stimulus words given to the subject. Ch, Ro, and Li were men students, a Sophomore, a Senior and a Graduate respectively. Po was a woman Graduate in the department of Psychology.

Results. The results for this experiment are shown in Tables I, II, III, IV, V, VI, VII.

Table I. - Here are shown the average reaction times, modes and numbers of cases for each of the six groups of stimulus words, one, two and three syllable stimulus adjectives and nouns, for each of four subjects. There are no results on three syllable nouns for subject Ro nor on any adjectives for subject Li. The order in which these words were given is to be kept in mind. This was serially through one, two and three syllable adjectives, and the nouns then in the same way. For subjects Ch and Po the results are uniform. There is a definite increase in reaction time with the number of syllables for both nouns and adjectives, and a uniformly larger reaction time for a given group of nouns over the adjectives of the same number of syllables. For Li no conclusions can be drawn, - the reaction time for the groups of nouns of all syllables is practically constant. The vocabulary of Li was very wide; there were probably only two or three failures during the whole series due to unfamiliarity with the word. This may indicate that the increase in reaction time with the number of syllables is not dependent on the actual increase in length of time for the stimulus word to be spoken, but rather because words increase in complexity of meaning and decrease in familiarity with their length. In our speaking vocabulary we have a smaller

percentage of words of two syllables than of one, and a much smaller percentage of three syllable words. The results for Ro are peculiar but thoroughly explainable. It will be noticed that for the adjectives, - which were done before the nouns, there was a steady decrease in reaction time in progressing from one syllable to two syllables and to three, the averages being respectively 956, 662, and 634. The results for nouns agree with those for subjects Ch and Po. The reverse order for adjectives is to be explained by the fact that at the beginning of the year the subject was not in good health. This was not realized by the experimenter until the subject was well started in the work, and then it was thought interesting to see the effect of improvement in health on the reaction time. It will be observed how slow his reaction time is for one syllable adjectives as compared to the other subjects, and how much it dropped for the two syllable adjectives. It was in the middle of this group that his poor health which manifested itself in extreme nervousness was suddenly much improved after being treated by a physician. This continued through the remainder of the adjectives, - it could hardly be said that his reactions were perfectly normal until this time, which was about a month later. From then on during the noun series there was nothing conspicuous in his behavior or reactions. Notes taken during his period of disturbance may prove of interest in emphasizing the dependence of the reverse order of reaction times upon his health at the time.

Subject Ro. - Nov. 18.-a tendency today to respond to an adjective with a noun cognate to it, - awkward-awkwardness. When questioned in regard to this, says he has a feeling of going along the line of least resistance, which he cannot control. Went to see Dr. X last Friday about his nervousness. Dr. X gave him some bitter medicine and it made him better the next day, and ever since. Ro looks better and is much less nervous. Face not so scratched - scratches it when nervous. Had, he says, especially hard attacks twice a year. Has been playing heretofore during experiment with a collection of clamps, bars, wire, etc., collected from what is within his reach. No behavior like this today.

Nov. 19.-Some tendency to react as on yesterday, i.e., peevish-peevishness. Some tendency to repeat the reaction of the previous stimulus word. Much repetition of "being" as reaction word. Nervousness present again today. Medicine taken last Friday was nux vomica - has been taking every day, but not today, because the "effect wearing off". Now attributes his well being of yesterday to the good weather, and vice versa for today, which is cloudy.

Nov. 26.-Reactions of this type gone - awkward-awkwardness, but new type has appeared - the

same reaction word is given many times in the same list. "Spirit" was given 15 times in today's work (160 words). Others of this type were "means", "money", "mood".

Dec. 2 - Reaction types occurred like those of Nov. 26.

List I occasion - 3 times
 gift - 3 "
 condition- 5 "

List II occasion - 2 "
 gift - 2 "
 condition- 1 time

List III occasion - 1 "
 gift - 5 times
 condition- 0 "
 spirit - 6 "

It may be that "spirit" in the last of these lists was a substitution, voluntary or involuntary, for the word "condition". In the middle of list III, subject said that when he gave a reaction that was being duplicated so often, it was not the word that first came to his mind, but to his lips, i.e.

maternal - gift (spoken reaction)
maternal - care (thought reaction)

After being told that hereafter on such reactions the thought word as well as the spoken word would be called for, these reactions began immediately to fall off, i.e.

List IV occasion - 1 times
 condition- 0 "
 gift - 0 "
 spirit - 2 "
but mind - 5 " as if a new word

were being introduced to avoid the anticipated questioning.

There was still some evidence of the first type of odd reaction, i.e. "awkward - awkwardness"

Dec. 3 - Duplicate reactions continue.

<u>List I</u>	none		
<u>List II</u>	conduct	- 8	times
<u>List III</u>	conduct	- 1	"
	spirit	- 5	"
	action	- 5	"
<u>List IV</u>	conduct	- 2	"
	spirit	- 4	"
	action	- 2	"
	condition 1		"
	man	- 7	"
	mind	- 5	"

Dec. 10 - Nouns - first day. Likes adjectives better than nouns; nouns call up an object with no particular emphasis on its qualities, while the adjective cannot appear without an object. Subject feels that nouns are going faster, however.

Table II - This table shows the variation in reaction time with change of accent for three syllable adjectives and nouns. It was not considered worth while or valid to make comparisons on accent for two syllable adjectives and nouns inasmuch as the percentage of these with the accent on the second syllable is so very small in comparison with those having the accent on the first syllable. And likewise for three syllable adjectives and nouns, comparison is really valid only between the first and second syllable

accented words, inasmuch as the number of words with the accent on the third syllable is very small. No conclusion can be drawn at all in regard to the effect of accent on reaction time. The difference in reaction time with change of accent varies in direction with different subjects, and by amounts that in most cases have no validity as differences. It is interesting to note though that with both groups of words here subdivided into three classes each, the conclusion drawn from Table I still holds, that is, that the reaction time is greater for noun stimuli than for adjective stimuli. Of course comparison is possible only for subjects Ch and Po.

Table III - Here are shown the results of dividing the noun stimulus words into seven logical categories and one unclassified group. Considerable difficulty was experienced in finding a scheme of classification. It was intended at first to classify them into two groups only, abstract and concrete, but when an actual classification under these simple headings was attempted it was found utterly impossible. There is no hard and fast line between these two classes. There are, of course, nouns which are obviously concrete, and others undeniably abstract, from a certain point of view, but between these and including a very large percentage of all nouns are a great horde which are really of widely varying degrees of concreteness and abstractness. The terms are only relative. From one point of view everything is concrete and from another everything is equally abstract. Even the stock illustrations of abstract nouns, such as triangularity or virtue may be thought of as being just as concrete as furniture or walk-

ing. The words that gave the greatest difficulty were those of a lower level of abstractness than those which are usually used as illustrations of abstracts, (nouns ending in ity, hood, ness) but which are not of the level of concreteness of apple or book. Such words are cost, fate, style, skill. Do we mean here costness, fatehood, styleness, skillness, or the actual money, the actual happening, shortskirts and high boots, and manipulation of fingers? Or can we say that we are ever precise at all in just what we do mean,- is now one meant, now the other? For this reason a new classification was sought. Seven categories with an additional unclassified group was the smallest number found possible to use. They were chosen as follows;

1. Inanimate objects.- This class is self-explanatory.
2. Animate objects.- Here are included all nouns denoting living objects in the animal kingdom. A corpse or a salt her-ring were classified as inanimate. The noun must, too, denote the whole organism, not just one of its parts, - arm and knuckle come in a later category.
3. Actions.- These nouns express pure action, such as leap, riding, for their existence lasts only during the leap-ing or riding. After the leap has been leaped there is no leap left. This was taken as the test for this class. There are a good many nouns which may express either pure action or the result of the action. The adjective given by the subject was taken as criterion of which was in the mind and it was so classified. If ambiguous, it was relegated to the unclassified group. Such an example of possible double meaning is the

noun crack. This may mean the actual space in the side of the broken object, as in the reaction jagged-crack, or it may mean the action of cracking itself as in the reaction loud-crack. The former and others of its kind were classified as inanimate objects.

4. Vegetable kingdom. - This class is self-explanatory.

5. Parts of the Body. - This class is self-explanatory.

It was of course not possible to list them under animate objects with words denoting a complete organism. Besides, it was thought that a separate classification of these might through a possible increased reaction time throw some light on the emotional reaction, inasmuch as many parts of the body are of especial erotic significance, such as hair, loin, bosom.

6. Feelings and emotions. - These are nouns actually denoting the feelings and emotions themselves, such as love, anger, distress, desire. In this list were not included words having an emotional connotation, such as mistletoe has for some individuals.

7. Abstracts. - These have been partly discussed above. It was decided to include not only the orthodox abstracts which usually end in ity, hood, ness, etc., but also that lower hierarchy of abstracts including words like vogue, needs and loss.

8. Unclassified. - Here were put the days, months, seasons, sounds, diseases, weights and measures, collective nouns, directions of the compass, times of day, parts of speech, the sciences and arts, and others.

The result of this classification as indicated in Table III shows nothing. There is no greater variation in the average reaction time than would be expected from the large variation in the number of words per group, which of course was not controllable. This uniformity may indicate that emotional disturbances, from whatever cause, - the meaning of the word, its relative unfamiliarity, etc., - do not necessarily manifest themselves in an increased reaction time but through some other physiological mechanism than the vocal apparatus, such as respiration, heart rate, blood pressure. This is a problem already under way in this laboratory. Certainly nothing was indicated by this laborious classification to give any clue to a possible difference in types of response according to the intrinsic nature of the word. Because of these negative results, it was decided not to compile results on the classification of adjectives. These were classified under the same heads as the nouns, the basis of interpretation being the noun cognate with the adjective.

Tables IV, V, VI, VII. - Here are shown the distributions of the reaction times, averages, and modes for one, two and three syllable adjectives and nouns for each observer, with the total number of words for each series, and the average reaction time. It will be observed that the relative values of the modes follows pretty closely the relative values of the average reaction times for the several groups, and so bear out the conclusions from the averages.

Conclusions. - EXPERIMENT I.

1. The reaction time for the noun-adjective reaction is very definitely longer than for the adjective-noun reaction. The amount of this increase varies with the number of syllables in the groups compared and with the subject. The difference varied from 420 sigma to 950 sigma. The difference does not vary in any fixed way in going from words of one syllable to those of two and three. The reason accounting for this definitely longer reaction time for nouns than for adjectives is probably to be sought for in the normal order of nouns and adjectives in the English language. With the exception of a few set couplets such as "durance vile", "choir invisible", "infant terrible", the universal order in the English language is adjective-noun. Because of this the habit of reaction in this direction is very stable and as mechanised as is possible with the permutation of adjectives and nouns in language. The reverse reaction therefore always requires greater effort and gives a longer reaction time. In connection with this possible explanation an experiment is under way in this laboratory to test out the same reactions on French, Italian and Spanish subjects where the order of adjectives and nouns on the whole is the reverse from the English order. If this language explanation has validity, we will expect to find that the adjective - noun reaction is longer than the noun - adjective reaction.

A contributory reason for the reaction time being longer for nouns than for adjectives lies in the fact that many nouns

are commonly never used with a modifying adjective, i.e., the words "rote" and "ounce", - and adjectives are relatively difficult to find to modify them. This lengthens the reaction time. This however was no factor in Experiment II, where all such words were eliminated. Subjects when asked which were harder to respond to, all named the nouns. They were asked why and their naive explanations all fell into this general scheme: an adjective always suggests some object having that quality, but a noun suggests no particular aspect of itself, making it necessary to "feel" for an attribute. Some of the notes taken of comments by subjects may be of interest here:

Ch. Nov. 17 (first day on nouns) - Nouns much harder than adjectives. Have to think backwards then forwards to see if adjective fits. Have to think harder but time seems to go much faster for a list.

(This an illusion - time really much longer.)

Ro. Dec. 10 (first day on nouns) - Likes adjectives better than nouns, because nouns call up an object with no particular emphasis on its qualities, whereas the adjective cannot appear without an object. It feels as if the nouns were going faster.

Li. Nov. 22 (first day on nouns) - Felt as if doing poorly. Ought to be able to think of better adjectives - less commonplace ones.

II. The reaction time for these types of controlled reactions increases directly as the number of syllables in the

word increases. This holds for both adjectives and nouns. The one exception found for adjectives was in the results for Subject Ro, and for the nouns in the results for Li which have been explained above. This increase varies for adjectives from 18 sigma to 196 sigma and for nouns from 20 sigma to 332 sigma.

III. The position of the accent for both nouns and adjectives has no systematic effect on the reaction time.

IV. With nouns there is no interpretable variation in reaction time according to the logical grouping of the stimulus words. The reaction time remains relatively constant within the limits of word length. The variations are probably attributable to a difference in the number of cases in each logical group.

V. From observation of the subjects during the course of the experiment it is to be concluded that two or three separate hours of work are sufficient for the subject to become adapted to the experiment, to lose any emotional disturbance due to the fact of sex difference between experimenter and subject as far as this last could ever be attained. Inhibition from such a source we are persuaded was at its minimum during the whole experiment for all subjects.

VI. It is impossible for a subject to keep up through the whole of one session, and necessarily not for the whole experiment, to the top notch of tension that is possible in getting reaction times on a few words. That which we call

"tension", whatever its physiological mechanism, was evident for the first two or three words of each list, as indicated by a distinctly shorter reaction time. This suddenly became longer, and remained more or less uniform throughout the rest of the list. If the reaction times for these observers should seem unduly long, which we doubt very much, it is probably due to this adjustment to a certain comfortable physiological tension that can be maintained through the course of an hour's work at a time for three days a week, for several months.

EXPERIMENT II

Preparation of Material and Method of Procedure

From the results of Experiment I it was planned to secure a revised list of adjectives and nouns forming a lexicon of words suitable for these types of controlled associations; to take an equal number of each group for further trial on a larger number of subjects, and investigate the same problems studied in Experiment I. The first task was to eliminate unsuitable words. These were found to fall into the following classes:

1. Unfamiliar words beyond those already eliminated in making up the original lists. There was throughout a continual conviction of the necessity for distinguishing between the reading and conversational vocabulary. In making the original lists, the experimenter had unwittingly but naturally chosen words familiar as read, many of which on being heard by the subject were pronounced at once unfamiliar. Later his judg-

ment was changed when the word was spelled for him or he reflected on it.

2. Words difficult to pronounce intelligibly to the subject, such as leak, which was variously taken as leap, link, etc., or eclectic, understood throughout as epileptic.

3. Words having an emotional value either obviously or subtly, - in the first case words like pregnant, corset, and suck, and in the latter case that rather large group of words almost entirely confined to the masculine vocabulary whose dictionary meaning is perfectly unemotional, but in everyday use have also a subtle sexual meaning, extremely emotional. A few of these have already been mentioned above. The elimination of these words was made by several of the men in the department. Since, however, many of these words are purely colloquial, there are doubtless many still in the revised lists.

4. Homonyms in a narrow sense. A difference of spelling and identity of pronunciation was required, also that the two or more words be of the same part of speech. Fate and fete are homonymous for this experiment, but not great and grate. It was considered sufficient control that the subject knew what part of speech he was being given. Furthermore most homonyms actually do exist in the narrow sense taken. As far as realized now, only two of these homonyms slipped past detection and got into the revised lists. These are chaste, chased, and dessert, desert'.

5. Words that are intrinsically difficult to respond to with the required type of response, such as the nouns

nothing and ounce, to give adjectives.

6. A small group of words eliminated for various unclassified reasons, - long reaction times or absurd responses attributable to none of the above reasons.

After these rejections were finished special lists were made up from the selected words for ten days' work. Each list contained 30 words and six lists were given in an hour making 180 words per session. Whereas the types of words were run through serially in Experiment I, in this experiment one, two, and three syllable nouns and adjectives were run parallelly so that comparison between the groups would be entirely valid. Therefore each day's series was made up of one list each of the following words and given in this order:

- 1 syllable adjectives
- 1 syllable nouns
- 2 syllable adjectives
- 2 syllable nouns
- 3 syllable adjectives
- 3 syllable nouns

The adjectives and nouns also alternated on successive days in occupying the first position in the series. Nouns occurred first on odd days and adjectives on even days. It was discovered unfortunately that there were not enough selected one syllable adjectives to cover ten days' work, in fact only 194 of them, enough for six days' work (180) and a few over. For this reason it was possible to carry out the above procedure for only six of the ten days. The remaining days' work was made up of only two and three syllable adjectives and nouns. It was necessary of course to drop one syllable nouns for the remainder of the series in order that

there might be an equal number of one syllable adjectives and nouns for the comparison of reaction times. To make the number of two and three syllable adjectives and nouns come out even for the remaining four days' work the following schedule was adopted:

Days VII and IX.- 2 lists each of 2 syllable nouns and adjectives.
1 list each of 3 syllable nouns and adjectives.

Days VIII and X.- 2 lists each of 3 syllable nouns and adjectives.
1 list each of 2 syllable nouns and adjectives.

This gave the following distribution of the 1800 stimulus words:

1 syll. adjectives and nouns, each	180	360
2 and 3 syll. adjectives and nouns, each	360	1440

This whole group of adjectives and nouns together with the remaining selected words, the rejected words and the homonyms can be found at the end of this paper.

In addition to this 10 days' regular work, three days' practise work was given preliminarily on the basis of our conclusion of Experiment I. that the length of time required to become adapted to the experimental situation is two or three sessions. For stimulus words were taken whatever material was available from the rejected words of various kinds, and as nearly as possible the scheme of parallelism and alternation was carried out, as can be seen by referring to the actual lists used. No three syllable nouns were included in these practise words, because rejections had not been quite completed on them at the time Experiment II began, inasmuch

as the three syllable nouns formed the last material for Experiment L. The actual three days' practise words - 450 each of nouns and adjectives - were distributed as follows:

	<u>1 syllable</u>	<u>2 syllable</u>	<u>3 syllable</u>
<u>adjectives</u>	30	180	60
<u>nouns</u>	120	150	0

These lists are to be found at the end of this paper. It was contemplated comparing the results for the practise period with the regular period to see directly the effect of excluding unsuitable words of different kinds.

Eight subjects were used in this experiment, four of whom had gone through the experiment on verbs (not reported here), No, Mj, La, and Cl; and four who were entirely new to the whole experimental procedure, Mh, Sc, Ba, and Ke. The first four as well as the latter took the practise work, for there was no reason for thinking necessarily that they might be adapted to an adjective-noun reaction merely because they had been working on another similar type of reaction. Of course any emotional disturbance had already been eliminated. At the beginning of the regular ten days' work it may be said that all subjects had lost as much of any emotional attitude as they would lose, and for all except one subject perhaps we would say that any remaining emotional upset was practically nil. This one exception, Ke, was of a naturally shy disposition. No has been described above; La, Mj, Cl, Mh, Sc, and Ke were all University men, the first of these being a Ph.D. graduate, the next two Sophomores and the last three Freshmen, Ba was a Junior at a woman's College. In all there were seven men and

one woman. It had been hoped to have an equal number of men and women but the difficulty of getting women subjects prevented this.

Results for this experiment are shown in Tables VIII to XVII inclusive.

Table VIII. This is similar to Table I, Experiment I. It shows the averages, numbers of cases and modes for one, two and three syllable adjectives and nouns for the regular ten days work.

1. The results are consistent throughout for each observer in corroborating the conclusion in Experiment I that the noun - adjective reaction is longer than the adjective - noun reaction.

2. The results corroborate throughout the conclusions in Experiment I that the reaction time increases directly as the number of syllables in the stimulus adjective, and there is only one break in the consistency of results for nouns. This is in two syllable nouns for subject La, where there was a drop in reaction time from that for one syllable nouns, though it increases very markedly for three syllable nouns. Subject La, however, was apt to be erratic at times, having an excessively long reaction time for very simple unemotional words. This may be attributable to his habit of using his hands and fingers a great deal while talking. This might have caused inhibitions. This one exception has not been considered of sufficient weight to vitiate the otherwise unanimous evidence in favor of the above general conclusion in regard to syllable variation.

Table IX. Here are shown the results for the practise period. The same conclusions hold here as for the regular period.

1. The reaction time for the noun- adjective reaction is longer than for the adjective- noun reaction.

2. The reaction time for both adjectives and nouns increases directly as the number of syllables in the stimulus word. There are exceptions for adjectives as indicated in the Tables, one for subject La, whose erratic behavior has already been commented upon, and one for subject Sc. It will be observed that all his averages as compared with the others are relatively low. This can be attributed actually to a narrowness in vocabulary, which instead of hampering him, actually hastened his reaction. He was a Freshman, as noted above, coming from a technical preparatory school, where little attention was given to English that might have stimulated a naturally indifferent attitude toward greater precision in language. As a result his reactions lay within a narrow compass, and duplicates were common. This was true particularly for the adjective responses to nouns. They were made up largely of what have been called by Kent and Rosanoff non-specific reactions, such as large, small, good, bad, tall, short, etc. Few, if any, adjectives were given of more subtle or connotative significance. Nouns that were reacted to by the other subjects with emotional adjectives such as horrible, ghastly or beautiful, wonderful got merely bad or good from this subject. Necessarily these stock adjectives occurred many times in one list and allowed of a relatively

short reaction time. The nouns given too were meager in their connotation and variety, though to a less degree than the adjectives. Owing to the dearth of words in his vocabulary a good many words of common knowledge were unknown to him and their reactions had to be recorded as failures. These reasons may account for the break in his results.

3. The reaction times for both adjectives and nouns are much longer for these rejected words than for the selected words of the regular series. This was of course to be expected. This increase varies for adjectives from about 50 sigma to 1000 sigma, and for nouns from 100 sigma to 1600 sigma, but for adjectives the increase is usually about 400 sigma and for nouns 600 sigma.

Tables X to XVII (inclusive). These give respectively the distribution of reaction times for each of the eight subjects for the regular ten days' work, with the mode underlined and the average reaction time given at the foot of each column below the total number of cases. It is to be noted that the difference between the actual number of cases recorded and the number of stimulus words given in each group (180 or 360) is due to

1. Failures to respond at all, or with a suitable word.
2. Stopping of the motor.
3. Failure of subject to speak into the voice key so as to make the clock stop.
4. A few cases where 3. occurred for the experimenter.

These results elaborate the conclusions drawn from the averages. It will be noticed that to a great extent the modes bear out the same conclusions as do the averages, especially

for the increase in reaction time for nouns over adjectives.

The relatively large number of reactions of four seconds and over, for some of the subjects, must indicate either that the stimulus words need further elimination or that these subjects had particularly slow reactions for all words, therefore bringing a larger percentage into this four second group. Both conclusions are valid to some extent. Some further words apparently need to be eliminated to accommodate the vocabularies of even University freshmen. On the other hand, subjects Ba, Cl, and La were naturally slow in reaction no matter how simple the stimulus word.

Conclusions. - EXPERIMENT II.

1. The reaction time for the noun-adjective reaction is longer than the adjective-noun reaction.

2. The reaction time for both adjective and noun stimulus words increases directly with the number of syllables in the stimulus word.

3. Conclusions 1. and 2. corroborate and intensify the same conclusions made in Experiment I. They hold also for a group of difficult adjectives and nouns such as were used in the practise period of this experiment, although the reaction times for both are greatly increased above the normal for the large mixed group used in Experiment I or the selected group of this experiment.

EXPERIMENT III

Purpose and Procedure

This experiment was carried out in its present brief scope chiefly to get some indication of the probable outcome of the experiment on a large scale. It consisted in repeating for two more successive days the identical lists of Day 10 of the regular series. The purpose was to see the course of the reaction time. For this reason the subject was not instructed that these lists were repetitions, but merely told that he might possibly recognize some words as having been given before, to take no note of this but to react as usual with the first adjective or noun thought of, and to make no effort to duplicate his response for the same stimulus word. This work was done immediately at the close of the regular 10 days' work on the same eight subjects.

Results: The results are shown in Table XVIII. On the whole there is a decrease in reaction time with each repetition of the same stimulus words, both adjectives and nouns. Subject No. however, did not conform to this type of reaction except in two out of a possible eight drops in reaction time. Unfortunately we have no note of any unusual behavior for the three days that might account for his eccentricity. If we exclude his results entirely, however, the exceptions are few, - only 3 increases as against 25 decreases in reaction time for adjectives, and only 1 increase as against 27 decreases in reaction time for nouns.

The response words given were usually repetitions in

spite of most of the subjects not recognizing on the second day that the words were exact duplicates, and in spite of the instructions when they did recognize a duplicated word. The subjects all "caught on" by the third day that the lists were duplicates; if one of them gave a new response word he usually commented on the fact to himself.

Conclusions.

1. Successive repetitions of a list of stimulus words cause successive decreases in the reaction times when the subject is not informed of the fact of their repetition. These reaction times would without doubt ultimately reach a physiological level.

EXPERIMENT IV - DOUBLE ASSOCIATIONS.

Purpose and Procedure

This experiment like Experiment III was made only on a small scale in order to get an indication of the probable course of results on a larger scale. It comprise one hour's work only for each of four subjects Mj, Cl, La, and No. Six lists of stimulus words were given, 20 each of one, two, and three syllable adjectives and intransitive verbs, run parallelly as in Experiment II. Double associations were required. For an adjective stimulus word, the subject must think of a noun applicable to the adjective and respond with a verb having this noun as subject. In this way the first association was silent, the second spoken. The verb given might be eith-

er transitive or intransitive, but auxiliaries were prohibited. With the intransitive verbs, the association was made in the reverse order, back to a noun as its subject (silent) and then to an adjective (spoken) modifying this noun. Intransitive verbs were chosen for this type of reaction as a check on the backward direction of the association, otherwise the association might be made forward to an object of the verb and its modifier.

Results: The results are shown in Table XIX. With two exceptions in the three syllable words, there is a uniform increase in reaction time for the backward association from verbs to adjectives. This result agrees with the comments of the subjects when asked which was the easier. The backward association with exceptions was felt to require the greater effort. This increase in reaction time varies, to be sure, between wide limits among the different syllables and different subjects, from 32 sigma to 1300 sigma, with an average increase of about 570 sigma. For the two exceptions for subjects No and Cl, respectively, the decrease in reaction time for the backward association is small compared to the average increase for other cases. It is respectively only 162 and 126 sigma. A larger number of cases would probably throw these results in the same direction as the rest.

Conclusions.

1. The reaction time is longer for "backward" than "forward" double associations from the point of view of the normal language order. The reaction time is longer in associa-

ting from intransitive verbs back through noun subjects to adjectives than from adjectives forward through noun subjects to verbs.



SUMMARY OF CONCLUSIONS

1. The normal order for adjectives and nouns in the English language gives a shorter association reaction time than the inverse order. That is, the reaction time for the adjective - noun reaction is shorter than the noun - adjective reaction. This holds for groups of selected words and mixed groups containing both selected and rejected words.

2. The reaction time for both normal and inverse orders of controlled word associations increases directly with the number of syllables in the stimulus word. This holds for both the adjective - noun and noun - adjective reactions in groups of selected words and in mixed groups containing both selected and rejected words.

3. Conclusions 1. and 2. hold also for groups of difficult words made up of rejected adjectives and nouns, although the reaction times for both are greatly increased above the average for a selected group or a mixed group of words.

4. The position of the accent in the stimulus word has no systematic effect on the reaction time for either the adjective - noun or noun - adjective reaction.

5. There is no interpretable variation in reaction time according to the grouping of nouns into logical categories. The reaction time remains relatively constant within the limits of word length.

6. Two or three separate hours of work are sufficient for the subject to become adapted to the experiment and to lose as much as is possible of any emotional disturbance re-

sulting from sex difference between subject and experimenter.

7. The beginning of each list of words is usually marked by three or four reaction times faster than the average. There is then a sudden increase which persists through the list, and which may be due to the adjustment of the subject to a comfortable, steady muscular "tension" adapted to a long period of work.

8. Successive repetitions of a list of stimulus words, for both the adjective - noun and the noun - adjective reactions, cause successive decreases in the reaction times when the subject is not informed of the fact of repetition. These reaction times would probably reach a physiological limit ultimately.

9. The reaction time in double association is longer for the inverse order than for the normal order in the English language. That is, the reaction time is longer in associating from intransitive verbs backward through noun subjects to adjectives than forward through noun subjects to verbs.

Further Problems in the Word Association Method

The following problems are either already in the course of investigation in this laboratory, or are proposed for investigation:

1. A more detailed study of double and triple association along the line suggested by Experiment IV.

2. A more detailed study of the course of the reaction time for repetitions of a group of stimulus words of different types, as suggested in Experiment III.

3. The effect of suggestion on the reaction time variation for different types of forward and backward controlled word association.

4. Comparison of visual and auditory methods of presentation of stimulus words in the word association method.

5. A comparison of spoken and written types of reaction in the word association method.

6. The variation in reaction time for the adjective - noun and noun - adjective reaction in French, Italian and Spanish subjects.

7. A study of the emotions in the word association method, when supplemented by plethysmographic, cardiographic, sphygmographic, pneumographic, and galvanometric controls.

8. Sex differences in various types of controlled word associations.

9. Investigation into the comparative reaction times for the following types of controlled word associations:

- (1) noun subject - intransitive verb
- noun subject - transitive verb
- noun subject - verb (either v.i. or v.t.)

- (2) Intransitive verb - noun subject
transitive verb - noun subject
verb (either v.i. or v.t.) - noun subject
- (3) transitive verb - noun object
noun object - transitive verb
- (4) noun subject - verb
verb - noun subject
- (5) A comparison of English and German subjects
for (3) and (4).
- (6) noun subject - (verb) - noun object
noun object - (verb) - noun subject
- (7) noun (cause) - verb (effect)
verb (effect) - noun (cause)
- (8) verb - adverb
adverb - verb
- (9) class (genus) - member (species)
member (species) - class (genus)
- (10) opposites for verbs
- (11) opposites for adjectives
- (12) opposites for adverbs
- (13) coordinate members

10. A study of preferential associations.

- (1) To observe whether transitive or intransitive verbs occur more often in the noun subject - verb reaction.
- (2) To observe whether noun subjects or noun objects occur more often in the verb - related noun reaction.
- (3) To observe whether noun subjects or noun objects occur more often in the noun - noun (related through action) reaction.
- (4) To observe which type of reaction occurs more often in the noun - logically related word (other than verb) reaction; adjective, subordinate, supraordinate, or coordinate.
- (5) To observe which type of reaction occurs more often in the adjective - logically related word reaction; substantive or opposite.

TABLE I.

Distribution of Modes and Averages of Reaction Times for Unselected Adjectives and Nouns.

Subject	1 syllable		2 syllable		3 syllable	
	Adjs. mode	Nouns av	Adjs. mode	Nouns av	Adjs. mode	Nouns av
Ro.	7-800	956	6-700	790	6-700	872
Ch.	6-700	689	6-700	1007	7-800	1105
Po.	4-600	569	6-700	865	7-800	875
Li.	--	--	6-700	854	--	--
					7-800	859
					--	--
					7-800	864
					9-1000	1271
					7-800	1009
					7-800	864

Multiply reaction time by 2 for sigma.

TABLE II.

VARIATION OF REACTION TIME WITH ACCENT

Subject	3 syllable adjectives (unselected)		3 syllable adjectives (unselected)		3 syllable adjectives (unselected)	
	av.	cases	av.	cases	av.	cases
Po.	679	352	694	365	812	11
Ro.	616	363	647	374	729	12
Ch.	802	368	770	371	788	16

3 syllable nouns (unselected)

Subject.	3 syllable nouns (unselected)		3 syllable nouns (unselected)		3 syllable nouns (unselected)	
	av.	cases	av.	cases	av.	cases
Po.	1017	981	996	582	947	45
Li.	850	1014	843	611	784	49
Ch.	1254	950	1297	579	1337	42

Multiply Reaction Time by 2 for Sigma.

TABLE III.

Average Reaction Times for Nouns (unselected)

1 syllable.

S.	IN		AN		AC		VG		PB		EM		AB		B	
	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.
Ro.	554	759	144	860	152	765	54	777	46	811	17	815	68	827	175	832
Ch.	673	1011	188	1099	198	962	54	1039	63	891	18	1122	78	1071	189	1119
Po.	725	850	212	887	216	837	63	802	63	891	23	887	103	950	212	851
Li.	266	854	73	828	74	865	28	797	28	808	6	1034	52	865	64	880

2 syllable.

IN	AN		AC		VG		PB		EM		AB		B			
	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.		
Ro.	1051	892	541	911	248	946	78	800	37	827	24	995	213	918	312	897
Ch.	659	1074	354	1141	161	1132	49	1040	30	1145	16	1167	186	1151	194	1099
Po.	348	851	169	999	88	866	28	773	8	740	11	879	54	832	111	832
Li.	1024	833	539	849	263	913	76	803	46	848	23	901	246	920	310	884

IN-inanimate objects. AN-animate objects. AC-actions. VG-vegetable kingdom. PB-parts of body. EM-feelings and emotions. AB-abstracts. B-unclassified.
 Multiply reaction time by 2 for sigma.

TABLE III.

Average Reaction Times for Nouns (unselected)3 syllable

S.	IN		AN		AC		VG		PB		EM		AB		B	
	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.
Ch.	434	1269	322	1350	222	1349	38	1169	12	1167	23	1387	275	1432	255	1328
Po.	440	978	325	1046	234	1030	42	800	14	1270	25	875	279	1019	249	1020
Ii.	446	835	343	837	236	882	39	702	20	854	26	879	293	851	271	847

IM-inanimate objects. AM-animate objects. AC-actions. VG-vegetable kingdom. PB-parts of body. EM-feelings and emotions. AB-abstracts. B-unclassified. Multiply reaction time by 2 for sigma.

Total Averages and Cases for Nouns (unselected)

Subject.	1 syllable		2 syllable		3 syllable	
	total cases	av. for all cases	total cases	av. for all cases	total cases	av. for all cases
Ro.	1190	790	2522	872	--	--
Ch.	1461	1007	1649	1105	1561	1271
Po.	1617	865	817	875	1608	1009
Ii.	591	854	2527	859	1674	846

TABLE IV

Distribution of Reaction Times-Subject - Po.

SIGMA*	1 syllable		2 syllable		3 syllable	
	adjectives	nouns	adjectives	nouns	adjectives	nouns
400	0	3	1	0	0	0
600	16	2	42	2	8	4
800	47	40	213	18	71	20
1000	46	197	254	96	172	99
1200	27	297	177	144	184	182
1400	17	288	107	148	141	250
1600	7	216	62	108	79	183
1800	6	173	29	91	34	207
2000	2	114	14	67	14	163
2200	0	82	3	43	13	101
2400	0	71	3	37	5	108
2600	0	40	1	19	4	57
2800	0	33	0	14	3	56
3000	0	27	0	9	0	49
3200	0	11	0	15	0	43
3400	0	7	0	2	0	24
3600	0	5	0	0	0	21
3800	0	2	0	2	0	12
4000 etc.	0	9	0	2	0	29
Total cases	168	1617	907	817	728	1608
Av. reac- tion time (sigma)	1138	1730	1328	1750	1380	2018

*i.e. 400 sigma - number of reaction times between 400 and 600 sigma.
All reaction times over 4000 sigma are grouped under 4000 sigma.

TABLE V

Distribution of Reaction Times-Subject - Ch.

SIGMA	1 syllable		2 syllable		3 syllable	
	adjectives	nouns	adjectives	nouns	adjectives	nouns
400	0	2	1.	0	2	1
600	0	0	7	0	0	2
800	16	4	57	3	20	1
1000	53	64	210	47	112	2
1200	58	193	216	150	187	26
1400	37	233	168	210	162	82
1600	26	196	119	205	103	162
1800	13	185	53	186	70	198
2000	3	125	45	186	35	153
2200	4	111	17	152	30	159
2400	1	75	4	97	9	134
2600	0	68	2	105	6	129
2800	0	52	0	68	5	87
3000	0	29	1	45	6	93
3200	0	33	1	47	3	74
3400	0	22	0	30	2	49
3600	0	16	0	24	2	43
3800	0	8	0	28	0	30
4000 etc.	0	45	0	66	3	156
Total cases	211	1461	901	1649	755	1581
Av. reaction time (sigma)	1378	1007	1396	2210	1592	2542

TABLE VI.

Distribution of Reaction Times-Subject - Ro.

SIGMA	1 syllable		2 syllable		3 syllable	
	adjectives	nouns	adjectives	nouns	adjectives	nouns
400	0	1	1	0	1	-
600	1	3	6	1	3	-
800	5	68	94	59	74	-
1000	23	219	244	298	265	-
1200	37	290	260	512	226	-
1400	40	196	161	457	120	-
1600	28	128	87	342	39	-
1800	25	79	35	228	10	-
2000	9	60	15	179	4	-
2200	4	50	7	119	5	-
2400	5	16	1	87	0	-
2600	2	18	3	65	1	-
2800	5	19	1	46	0	-
3000	0	19	1	34	0	-
3200	0	7	1	25	0	-
3400	2	5	0	16	0	-
3600	0	2	1	18	1	-
3800	1	2	0	6	0	-
4000 etc.	2	8	0	30	0	-
Total						
Cases	164	1190	918	2522	749	-
Av. reac- tion time (sigma)	1912	1580	1324	1744	1268	-

TABLE VII.

Distribution of Reaction Times-Subject - Li.

SIGMA	1 syllable		2 syllable		3 syllable	
	adjectives	nouns	adjectives	nouns	adjectives	nouns
400		0		2		0
600		2		4		1
800		11		52		29
1000		72		266		175
1200		131		460		337
1400		<u>99</u>		470		<u>345</u>
1600		81		<u>394</u>		<u>255</u>
1800		57		267		169
2000		43		193		138
2200		36		140		88
2400		18		82		43
2600		16		69		33
2800		6		46		19
3000		6		23		15
3200		4		9		12
3400		0		16		11
3600		1		9		3
3800		3		5		0
4000 etc.		5		11		1

Total cases 591
 Av. reaction time 1708
 (sigma)

2527 1674
 1718 1692

TABLE VIII.

Distribution of Modes and Averages of Reaction Times for Adjectives and Nouns.

Regular Ten Days' Work

No.	1 syllable		2 syllable		3 syllable	
	adjectives mode	nouns av.	adjectives mode	nouns av.	adjectives mode	nouns av.
No.	5-600	792	5-600	6-700	835	8-900
Mj.	4-600	801	5-600	6-700	918	6-800
La.	7-800	1190	6-700	8-900	1041*	10-1100
Cl.	5-700	1217	6-700	8-900	1376	9-1000
Mh.	8-700	959	5-600	8-900	1169	11-1200
Sc.	5-600	766	5-600	7-800	857	8-900
Ba.	5-700	1150	5-600	8-900	1430	8-900
Ke.	5-700	960	5-600	8-900	1175	9-1000

Multiply reaction time by 2 for sigma.

*Only break in consistency of results for syllable comparison.

TABLE IX.

Preliminary Practise (3 days)

Average Reaction Times for 1-2-3- Syllable Adjectives and Nouns

SUBJECT	1 syllable		2 syllable		3 syllable	
	adjectives av.	nouns cases	adjectives av.	nouns cases	adjectives av.	nouns cases
NO.	767	23	819	174	901	55
Mj.	658	29	887	159	1081	49
Ia.	933	28	1310	156	1269(1)	50
Cl.	969	26	1317	157	1547	45
Mh.	917	27	1310(2)	148	1502	47
Sc.	863	23	795	156	921	49
Ba.	818	28	1066	154	1228	50
Ke.	852	25	1283	154	1564	37

Multitry reaction time by 2 for sigma

(1) and (2) - exceptions to syllable variation for adjectives.

TABLE X.

Distribution of Reaction Times - Subject No.

SIGMA*	1 syllable		2 syllable		3 syllable	
	adjectives	nouns	adjectives	nouns	adjectives	nouns
400	0	0	0	0	0	0
600	6	1	2	0	0	0
800	37	15	52	6	15	0
1000	68	52	105	43	68	20
1200	29	40	91	78	82	48
1400	23	25	53	74	66	62
1600	7	22	25	47	30	72
1800	6	14	14	40	24	38
2000	2	10	11	18	21	35
2200	0	3	5	14	13	27
2400	1	1	4	8	8	15
2600	0	3	1	2	5	13
2800	0	3	0	11	5	4
3000	0	0	1	5	2	4
3200	0	1	2	3	2	5
3400	0	2	0	1	2	1
3600	0	0	0	1	0	0
3800	0	0	0	2	3	2
4000 etc.	0	3	1	1	5	2
Total cases	179	175	347	354	351	348
av. reaction time (sigma)	598	792	691	833	808	926

* i.e. 400 sigma - number of reaction times between 400 and 600 sigma.
 All reaction times above 4000 sigma are grouped under 4000 sigma.

TABLE XI.
Distribution of Reaction Times - Subject M.J.

SIGMA	1 syllable		2 syllable		3 syllable	
	adjectives	nouns	adjectives	nouns	adjectives	nouns
400	0	0	0	0	0	0
600	6	1	24	1	6	2
800	53	7	86	17	44	4
1000	<u>52</u>	31	92	48	82	35
1200	30	34	<u>62</u>	56	76	53
1400	18	<u>38</u>	32	45	48	<u>53</u>
1600	5	21	18	51	31	47
1800	6	13	15	25	21	37
2000	4	8	3	27	14	28
2200	0	9	7	14	5	21
2400	0	2	2	12	5	18
2600	1	3	5	4	3	7
2800	0	1	3	11	8	11
3000	0	2	1	8	2	12
3200	0	4	0	2	2	7
3400	0	0	0	6	0	4
3600	0	0	0	5	2	2
3800	0	0	0	1	1	1
4000 etc.	0	1	2	10	1	8

Total Cases	175	175	352	343	351	350
Av. reaction time (sigma)	1196	1602	1290	1836	1466	1910

TABLE XII.
Distribution of Reaction Times - Subject - Ia.

SIGMA	1 syllable		2 syllable		3 syllable	
	adjectives	nouns	adjectives	nouns	adjectives	nouns
400	0	0	0	0	0	0
600	0	0	1	0	0	1
800	12	4	21	0	3	0
1000	34	5	53	11	40	2
1200	31	17	56	29	46	11
1400	37	21	45	32	45	27
1600	13	21	33	46	44	28
1800	15	14	28	22	32	29
2000	9	20	23	32	22	37
2200	8	14	23	24	16	28
2400	2	6	15	24	15	25
2600	4	8	11	14	20	26
2800	2	5	11	15	17	15
3000	1	7	11	14	11	16
3200	2	5	6	10	5	7
3400	5	6	2	10	2	11
3600	1	4	3	5	4	7
3800	0	4	3	8	4	12
4000 etc.	1	16	9	50	25	59
Total cases	177	177	350	346	351	341
Average reaction time (sigma)	1640	2380	1856	2082	2130	2902

TABLE XIII

Distribution of Reaction Times - Subject Cl.

SIGMA.	1 syllable		2 syllable		3 syllable	
	adjectives	nouns	adjectives	nouns	adjectives	nouns
400	0	0	0	0	0	0
600	1	0	1	0	0	0
800	15	1	13	1	1	0
1000	27	3	35	7	21	1
1200	27	13	58	11	56	1
1400	18	18	46	28	47	21
1600	19	12	35	35	45	28
1800	20	17	56	29	28	33
2000	7	14	23	23	31	27
2200	9	16	21	28	22	22
2400	4	11	12	24	15	26
2600	2	15	13	28	11	28
2800	2	11	10	13	20	17
3000	4	11	7	11	15	24
3200	4	4	2	19	8	15
3400	1	2	4	9	6	25
3600	1	4	5	11	4	10
3800	0	4	4	11	3	10
4000 etc.	5	13	15	48	30	56
Total cases	166	169	540	536	543	544
Av. reaction time (sigma)	1766	2434	1962	2752	2318	2978

TABLE XIV.

Distribution of Reaction Times - Subject - Mh.

SIGMA	1 syllable		2 syllable		3 syllable	
	adjectives	nouns	adjectives	nouns	adjectives	nouns
400	0	0	0	0	0	0
600	3	1	1	0	0	0
800	21	5	19	2	3	0
1000	27	20	74	10	22	4
1200	28	19	56	46	51	26
1400	17	25	42	36	49	29
1600	13	18	37	36	48	32
1800	16	27	26	33	41	33
2000	5	14	20	25	25	29
2200	9	10	8	25	20	35
2400	6	7	13	21	16	22
2600	8	3	5	18	9	26
2800	7	8	8	15	13	26
3000	4	1	5	14	8	13
3200	2	5	2	11	7	15
3400	1	3	6	12	10	3
3600	3	1	3	6	3	6
3800	0	1	3	3	3	7
4000 etc.	3	5	10	24	11	41
Total cases	173	173	538	537	539	549
Av. reaction time (sigma)	1738	1918	1630	2338	2022	2568

TABLE XV

Distribution of Reaction Times - Subject - Sc.

SIGMA	<u>1 syllable</u>		<u>2 syllable</u>		<u>3 syllable</u>	
	<u>adjectives</u>	<u>nouns</u>	<u>adjectives</u>	<u>nouns</u>	<u>adjectives</u>	<u>nouns</u>
400	0	0	0	0	0	0
600	2	1	0	0	0	0
800	27	10	21	1	5	0
1000	53	23	74	15	31	9
1200	39	39	73	73	69	57
1400	19	35	72	78	57	58
1600	13	35	30	59	46	68
1800	9	11	27	39	35	47
2000	5	5	25	17	28	42
2200	1	8	13	23	25	31
2400	3	4	5	13	25	19
2600	1	2	4	6	8	10
2800	1	0	2	6	9	5
3000	0	0	2	2	7	6
3200	0	0	1	0	0	3
3400	0	0	1	1	1	3
3600	0	0	0	1	2	0
3800	0	1	0	0	1	1
4000 etc.	0	0	1	0	0	1

Total cases 173
 Av. reaction time 1336
 (sigma)

174 351 334 344 340
 1532 1508 1714 1790 1958

TABLE XVI.

Distribution of Reaction Times-Subject - Ba.

SIGMA	1 syllable		2 syllable		3 syllable	
	adjectives	nouns	adjectives	nouns	adjectives	nouns
400	0	0	0	0	0	0
600	2	0	0	0	1	1
800	18	1	28	2	9	1
1000	58	14	63	13	37	6
1200	39	26	49	37	42	21
1400	15	25	40	37	37	26
1600	17	14	24	38	32	39
1800	6	11	23	19	23	30
2000	2	14	16	26	23	25
2200	7	13	23	17	21	33
2400	0	10	6	10	15	18
2600	7	10	6	17	14	14
2800	2	5	11	15	3	9
3000	4	2	9	12	10	13
3200	6	6	8	10	4	11
3400	2	6	1	8	5	13
3600	3	3	7	9	2	7
3800	1	2	3	10	6	4
4000 etc.	5	14	23	64	42	67
Total cases	174	177	350	344	326	338
Av. reaction time (sigma)	1694	2300	1998	2860	2396	3002

TABLE XVII.

Distribution of Reaction Times-Subject - Ke

SIGMA	1 syllable		2 syllable		3 syllable	
	adjectives	nouns	adjectives	nouns	adjectives	nouns
400	0	0	0	0	0	0
600	3	0	2	0	0	0
800	11	7	14	4	10	3
1000	27	13	52	20	18	10
1200	27	22	40	35	32	21
1400	18	23	46	28	26	32
1600	22	24	74	39	29	28
1800	12	14	29	24	39	37
2000	16	23	25	31	21	27
2200	13	12	16	30	23	33
2400	2	3	18	22	23	30
2600	8	5	13	14	18	16
2800	2	6	10	17	19	18
3000	4	4	9	18	13	18
3200	2	2	4	10	8	16
3400	1	2	5	7	6	9
3600	0	3	5	13	6	10
3800	1	1	3	3	6	2
4000 etc.	3	3	18	29	29	34
Total cases	172	167	333	344	326	344
Av. reaction time. (sigma)	1736	1920	2038	2750	2460	2518

TABLE XVIII.

Repetitions of Day 10 - selected wordsAverage Reaction TimeAdjectives

Subject	2 syllable		3 syllable	
	Day 10	Day 11	Day 10	Day 11
No.	697	815*	833	966*
Mj.	533	477	718	600
La.	942	659	1077	833
Cl.	675	802*	1022	909
Mh.	901	785	881	783
Sc.	808	699	978	688
Ba.	1117	879	1358	1130
Ye.	880	674	1053	840
				819
				607
				678
				744*
				839*
				614
				879
				664

Nouns

Subject	2 syllable		3 syllable	
	Day 10	Day 11	Day 10	Day 11
No.	879	1105*	1023	1100*
Mj.	854	599	961	750
La.	1345	961	1425	1012
Cl.	1190	1131	1453	1291
Mh.	1105	924	1087	1081
Sc.	974	756	1075	735
Ba.	1849	1403	1549	1612*
Ye.	999	814	1045	892
				1036*
				719
				805
				1062
				1044
				602
				1060
				770

Multiply reaction time by 2 for sigma.

*Exceptions to a decrease in reaction time for repetition of stimulus word.

TABLE XIX.
Average Reaction Times for Double Associations.

S.	No.		Cl.		Il.		La.	
	A-V	V-A	A-V	V-A	A-V	V-A	V-A	A-V
1	1118	1233	1447	2103	870	1268	1422	1977
2	1233	1249	2273	2303	1229	1479	2056	2345
3	1527	1446*	2191	2128*	1214	1525	2189	2601

20 each of 1, 2 and 3 syllable adjectives and verbs.

A-V = Adjective stimulus word, and verb response.

V-A = Verb (intr) stimulus word, and adjective response.

*Exceptions to higher reaction time for backward associations.

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CNE SYLLABLE ADJECTIVESSelected

vain
 dear
 real
 mean
 coarse
 lean
 main
 great
 vile
 weak
 cross
 sole
 past
 slight

Rejected

grave
 whole
 Dutch
 due
 eight
 fir
 well
 fleet
 south
 hoarse
 fourth
 male
 flir
 four
 more
 five

lithe
 lewd
 sixth
 ten
 through
 void
 all
 trim
 fit
 bound
 fifth
 sheer
 same
 bare
 fur
 down

Homonyms

bare-bass
 chaste-chased
 plain-plane

TWC SYLLABLE ADJECTIVES

Selected

crabbed	nimble	needless	mobile	dapper	only
rustic	alone	vulgar	stuffy	funny	treble
idle	willing	piecemeal	aimless	noisy	hollow
juicy	equal	chubby	sunny	valiant	present
speechless	fleeting	undue	limber	morbid	steadfast
prudent	soulless	cautious	snailid	lovely	ajar
vacant	shiny	quiltless	ghostly	compact	decent
grievous	precious	unatrod	tender	serene	sheepish
unripe	sightless	tidy	tender	correct	noxious
classic	constant	brazen	gentle	downy	tenor
marble	dreamy	alive	tawny	kiddy	selfish
crispy	handsome	wholesale	penal	shamefaced	enough
lilac	thoughtful	fitful	extreme	unfair	weary
tragic	dreary	milky	sandy	crazy	stagnant
inland	fishel	alien	dreamless	burly	wavy
earthly	hardy	livid	sallow	mundane	dirty
concise	abrupt	musty	abstract	untold	shapeless
loyal	freakish	royal-	normal	gentle	fretful
brittle	ancient	pretty	servile	direct	gummy
mortal	silent	onward	pensive	lukewarm	horny
hostile	wicked	auburn	bashful	allied	forlorn
callous	stubborn	lowly	acid	fleshy	lengthy
vital	living	rampant	thorough	guilty	glacial
holly	dewy	tandem	stylish	tawdry	dreadful
nasal	profane	natal	firstborn	central	astrey
stolen	dramatic	foremost	sacred	valid	starchy
mouldy	rigid	spinal	downcast	starry	manly
daring	dental	lucky	fractious	drunken	unkind
bushy	briny	buoyant	stalwart	tacit	fussy
soulful	lemon	hopeless	playful	bulky	perverse

TWO SYLLABLE ADJECTIVES

Selected

lurid	concrete	racial	woolen	infirm
hopeful	gallant	oval	empty	foreign
lusty	psychic	demure	creaky	righteous
spatial	meager	woful	inane	cloudy
waxy	dismal	placid	wilful	olive
sable	loving	active	chady	knockmoed
ardent	fearful	narrow	noiseless	horrid
senseless	sublime	total	soually	petty
faithful	precise	sweaty	timid	sticky
private	righthand	remote	rancid	inbred
brilliant	russet	tasteful	crimson	homely
candid	dinky	mannah	sunple	lyric
hoggish	unseen	roguish	dogged	creasant
awkward	lifelike	fickle	swarthy	absurd
baggy	vicious	unique	friendless	spoony
haggard	wanton	special	scenic	passive
lumpy	surly	ugly	fishy	naive
restless	elder	afloat	sterling	husky
flinty	rusty	routine	transverse	husky
hazel	heartless	infirm	dummy	scaly
careless	risky	silly	spotted	muffy
somber	artless	skin	fruitful	peevish
clever	dusky	useful	earthen	civic
slightly	diverse	doubtful	flighty	junior
finite	elvin	shapely	eldest	cosmic
rosy	radiant	fragrant	costly	austere
firsthand	craven	nomous	steady	crafty
beaten	pallid	daily	moral	qucently
grassy	wayward	civil	sprightly	cubic
bankrupt	faultless	homespun	harmful	springy
cranky	early			
gloomy				
asleep				

TWO SYLLABLE ADJECTIVES

<u>Reflected</u>		<u>Homonyms.</u>
pregnant	chary	discrete-discreet
stable	very	nightly-knightly
naval	weekly	plural-plural
dual	bilious	
handmade	other	
feudal	either	

THREE SYLLABLE ADJECTIVES

Selected.

parallel	eccentric	indulgent	audible	mystical	imminent
dynamic	unworthy	distracted	clandestine	unfriendly	dubious
plausible	curious	uneven	marginal	imprudent	social
uncommon	disastrous	propitious	unpractised	ominous	unearthly
judicious	convenient	reverend	protective	dexterous	cumbersome
effusive	treacherous	eternal	vigilant	credulous	historic
different	vivacious	exclusive	critical	defected	romantic
workable	restrictive	persistent	untutored	querile	suburban
curable	adjacent	ignorant	peppery	practical	especial
foolhardy	actual	internal	unreserved	conical	trivial
pastoral	falsetto	mythical	attractive	superfine	fictitious
tolerant	eloquent	retulant	transparent	impartial	global
diligent	eloquent	readymade	conductive	indignant	moderate
plenteous	eatable	unsightly	renegant	turbulent	vervatile
tropical	medical	incarnate	fortunate	conclusive	violent
pitiful	abhorrent	medium	merciful	unlucky	disdainful
reflective	visible	terrible	restrictive	serious	improper
outlandish	vincible	underhand	hideous	retranslucent	pugnacious
mineral	suitable	undaunted	adhesive	recular	inactive
jubilant	heavenward	mountainous	infamous	irregular	nearsighted
uneasy	casual	prosperous	explicit	primeval	opposite
feasible	militant	opportune	chaotic	vengeful	fidgety
delicate	rigorous	discrete	devious	straggling	laconic
credible	attendant	focal	subsequent	underground	scurrilous
notable	timorous	immoral	pestilent	definite	obvious
liberal	goodnatured	circular	tabular	observant	troublesome
informal	decisive	subjective	vehement	auscious	muscular
seafaring	heroic	euphonic	powerful	overwrought	pathetic
furious	electric	subpliant			

THREE SYLLABLE ADJECTIVES

Selected

unstable	insecure	seemstered	similar
important	excessive	inhuman	intricate
deceptive	incomplete	swirited	genuine
guttural	prospective	uncertain	officious
athletic	facetious	unwritten	progressive
vindictive	distinctive	fabulous-	confident
familiar	diffident	instructive	cultural
obstinate	fanciful	reverent	desperate
impudent	resultant	hickory	adaptive
nominal	ramshackle	concentric	abnormal
innocent	bedridden	violent	precocious
outsoken	slippery	inclement	potential
deceitful	arduous	amateur	oldfashione
plentiful	elegant	provincial	indigent
hydraulic	exciting	persuasive	defective
flexible	derisive	amazing	agnostic
gigantic	impatient	clerical	colorblind
manila	beauteous	incessant	forgetful
infantile	beforehand	impassive	mannerly
linear	hymnotic	beun ⁺ eous	logical
ravenous	compotent	agregate	querulous
elective	unwieldy	indiscreet	menial
elderly	popular	vorulous	primitive
beareble	courteous	prudential	erubtive
prodigious	technical	varorous	unstudied
principal			

THREE SYLLABLE ADJECTIVES

Rejected

marital
congruous
unaware
pliable
unable
affluent
expulsive
cursory
Italian
liable
soluble
Puritan
sommolent
archaic
ninetieth
discrepant
behindhand
continent
virtual
pervious
selfrighteous

adherent
protestant
dysventric
iambic
catholic
impromptu
insatiate
elliptic
emissive
skeletal
diurnal
palpable
lateral
African
multivle
concordant
descendant
forthcoming
amorous
glandular
ocular

twentieth
probable
discursive
forensic
visual
filigree
Pacific
imrotent
aquatic
Egyptian
monastic
unmindful
eightieth
senuous
expansive
capital
lacrimose
circumspect
obsolete
intestate
every
serual
unwonted
Japanese
fortieth
incurrup
eleventh
amorphous
several
liable
powdery
asctic
Atlantic
vascular
prematute
serial
transitive
inflective
asinine
indecent
pragmatic
lethargic

Homonyms

complaisant-complacent
eminent-emanant
littoral-littoral

ONE SYLLABLE NOUNS

Selected

psalm	shed	flue	dance	ledge	tart
welt	work	tree	scythe	deed	force
vest	mare	ape	bug	vat	lawn
stew	branch-	place	yank	cove	mind
whiff	stem	mob	nit	swing	toast
oath	chair	perch	tack	flail	bloom
hook	news	lope	shark	sweed	fraud
dress	wail	shrew	brush	babe	dome
fall	quart	scarf	hump	tights	hull
strip	lint	clock	wrist	peat	clown
greed	swine	treat	trout	saw	list
chat	comb	crab	cab	cheer	stall
wish	fray	bridge	scrub	boat	pipe
arm	blood	youth	wall	mount	shade
paste	buff	dope	praise	fear	coin
tinge	floor	corns	mint	range	stretch
play	mask	wheel	want	strut	char ^{se}
film	film	skee	stress	gulf	rift
thatch	cloth	worm	saw	chime	taint
hiss	shove	runt	niece	myth	slate
wiles	door	plight	reg	juice	thigh
roast	strike	joint	stand	bug	blade
skein	shon	fence	bog	start	crush
sod	wheat	rock	man	growth	bone
flute	ave	shears	raid	stone	dolt
soap	rod	book	man	brute	bang
manse	drop	coat	year	end	fluke
soul	match	flood	silk	lass	cliff
paw	limb	lar	lid	fate	Sold
cut	crook	chick	watch	hoot	nail
			glue		



ONE SYLLABLE NOUNSselected

squire	jibe	brass	twin	bribe	sight
life	brace	crease	glare	keel	clod
sheath	squeal	belt	hearth	gift	snail
cod	swan	quail	prune	task	cause
mist	twine	can	plea	mange	word
stitch	snort	sash	hear	chir	sledge
wrath	fleece	tub	threat	snout	age
storm	hand	gong	fat	kin	swig
braid	frill	hay	cheese	seat	grange
thought	land	foke	nest	rust	shoe
yawn	health	louse	noose	starch	lard
steed	liv	scrawl	lump	form	moon
raft	fudge	grim	flame	twirk	blot
world	drone	suds	name	pinch	haunt
lounge	scowl	leaf	dusk	elm	scourge
pack	groom	flounce	scribe	stock	mat
garb	hinge	colt	price	trail	net
smell	drain	stalk	whir	fleck	cat
phrase	place	yearl	sheep	chalk	source
toss	dearth	rose	dude	tuck	curl
sheaf	swell	whim	lure	skirt	step
loan	string	desk	rink	sag	hair
stage	fund	craze	trench	hit	grape
gleam	toil	ward	drink	waltz	page
truth	ease	ohm	tube	sieve	smoke
sleet	aim	beast	script	crop	priest
lull	salve	prank	food	flare	sage
plow	flint	swire	guise	wart	shoel
knob	knife	path	barb	trill	leak
cramp	hitch	speech	girl	feed	sphere

ONE SYLLABLE NOUNS

Selected

croak	coat	trust	oak	pin
God	ply	moose	germ	squad
tint	pon	shrub	brink	elk
ridge	shift	nook	tie	thrush
gash	rag	scout	fold	shale
thome	crew	ham	sour	zone
style	loom	flow	rub	camp
march	train	joy	cleft	pole
orb	sleeve	lane	shirt	kiss
mit	sting	kilt	glove	dead
straw	thread	noise	tune	brawl
swarm	life	pup	squeak	chief
bluff	sack	saint	chant	snap
vault	stripe	dog	blush	hate
flat	thing	clump	brand	staff
booth	throng	block	ground	tank
sem	sance	knack	cream	hedge
theft	shape	lease	fix	room
bronze	mind	noon	road	stack
scare	glance	throne	hub	job
thorn	fank	cold	gas	wake
blow	tilt	mole	broth	brick
goal	fright	grate	lark-	song
fault	teeth	nunch	clay	wit
slave	pig	bib	nag	clip
goat	scalp	snake	rin	help
horn	fire	cap	group	scheme
code	slice	helm	beg	hoe
pace	town	wave	forth	den
boot	vith	fume	char	mirth

ONE SYLLABLE NOUNSSelected

snipe	frock	rate	rill	flash	hip
pun	thug	ash	blank	find	stuff
trade	sprint	frog	thief	smurt	wine
zoo	dean	rug	hen	sang	flaw
wine	clause	roque	brine	press	sort
bean	seal	romp	cult	charm	pluck
fog	grief	wretch	act	graft	moor
bat	smudge	chart	ris	shame	height
row	bass	drift	hush	fly	wench
stroll	field	law	lack	plank	chick
moth	stick	dose	jaunt	booze	fern
dwarf	queen	trip	strife	choice	alms
bread	craft	jay	thumb	dad	curl
snip	brow	keg	dice	knee	scorn
dawn	liso	gorge	crutch	lamb	folk
prune	lick	broom	mitt	coal	yowl
sphinx	shield	shroud	harr	scum	quest
sale	chance	lock	spleen	lunch	crow
flask	shin	hunt	mouse	stom	snag
mate	mess	bunch	frown	cry	strength
fiend	dish	heat	groun	breed	mesh
stoop	sound	draft	birch	sketch	crib
hurt	axe	stride	child	jaw	kink
stealth	tin	mush	suit	lore	shaft
pay	kid	crank	lout	ram	use
need	rust	leash	stain	wool	spruce
feast	dirt	duck	shear	breeze	sty
chasm	varn	shelf	bid	blush	love
sleigh	friend	plug	mug	bowl	file
pad	sand		cup		

ONE SYLLABLE NOUNS

Selected

jug	globe	torch	tramp	quirk	bulb
rhyme	blast	whale	disk	squall	filth
talk	swell	shell	sake	dame	freight
herb	jest	streak	chain	ire	trunk
gloom	banse	lanse	waif	flush	prow
rouge	tap	pulse	valve	frame	deck
fight	hive	trough	fig	turf	vad
lace	dove	spoon	lath	dread	text
chess	face	spool	stream	fork	crust
lobe	dirge	doubt	oil	wrong	ruse
change	vlogue	roach	swain	ride	egg
smile	kite	glee	sock	boom	zest
cube	vase	fob	cask	hob	mire
swirl	glow	wreath	link	truck	bet
floss	nest	bard	ditch	shriek	fuse
mood	stump	wood	ice	cart	flax
prince	soil	hour	quince	head	malt
stunt	bond	scab	pass	dress	twitch
tag	swamp	slime	forse	nerve	lance
slip	cud	king	claw	wand	jot
pie	valm	pouch	rout	street	zeus
cook	chill	hum	foe	wound	foot
bench	beard	snow	curd	thud	hide
yard	march	cone	thirst	vllaint	lilt
glimpse	stave	snake	robe	strand	beak
drawl	wig	haze	park	pitch	call
dalc	note	swab	gift	curb	part
chip	luck	wedge	nymph	mumps	dredge
wage	wolf	rush	plant	dunce	hold
		eel	snail	lair	case

ONE SYLLABLE NOUNSSelected

pod	prayer	flock	hint	hut	throat
elf	nose	wren	gauze	swine	rust
cough	whack	nurr	hoof	hash	fake
vote	dash	quack	crime	churn	spree
vow	bruise	flight	crank	church	rib
gill	dell	drum	bef	cloud	brood
host	tan?	duke	guess	cup	dent
loss	house	sham	flank	foist	latch
hod	roar	toy	spice	pride	skill
harm	fan	brook	skill	harm	edge
trap	claim	hack	hog	chair	pause
cruise	tour	bust	stub	sword	goose
web	bin	prize	whip	bulk	mink
wash	tool	jest	shave	no'ch	meal
wich	fib	doom	term	bath	gate
earth	ebb	flap	bounce	glass	hoax
spray	con	game	sot	buzz	grove
coil	quilt	farm	fruit	fox	cuff
blouse	spade	view	toad	sleep	lurch
tape	rum	smirk	sweep	ear	push
court	crane	swoon	tip	rim	tax
farce	day	crone	patch	drive	imp
brat	nurse	milk	prig	quail	flag
barge	strap	sheet	grave	nome	rope
bur	reach	sprout	taste	chase	score
lodge	bride	groove	sin	yell	slat
wire	swite	third	moss	sneak	gock
wealth	iron	mould	trait	cloak	flirt
flake	shock	star	chest	wind	box
twiced	hunch	pike	dray	bomb	jolt

ONE SYLLABLE NOUNS

Selected

rage	loop	trace	wharf	death
knock	limp	rown	cash	roast
dip	music	ooze	pledge	bolt
coat	find	speed	heel	phase
ray	probe	lens	cost	knoll
art	cape	loaf	stop	tire
maid	hut	bee	rack	peck
wrench	bear	bay	faith	drag
hymn	pose	rick	skate	chink
fist	team	port	scroll	ant
lead	tract	eye	herd	way
whelp	perch	coach	rind	saw
lap	crag	bang	nose	lime
zeal	vick	cross	grade	seam
count	paid	grate	peep	scale
reel	stay	cell	sea	loft
aunt	size	board	neigh	pelt
fee	gore	check	slit	tide
blue	reef	dew	run	miss
hog	ale	flect	walk	side
mark	inn	course	state	race
rule	past	steel	snout	mine
rest	plot	pine	date	mode
dab	nore	scene	boil	peak
	eve			

ONE SYLLABLE NOUNS

Rejected

scrap	felt	month	lick	creed	drain
grace	trend	stray	swill	fland	fief
still	warn	Lent	suck	crick	stench
morn		drain	east	bum	dun
rote	ass	sworn	last	fade	cant
kelp	roke	frieze	bound	flux	arms
round	ewe	ruff	fit	dream	rank
jade	Dane	morn	eight	nrey	lien
May	eighth	ball	trash	might	jack
piece	Jew	Welsh	stir	husk	type
square	drape	flume	three	width	trash
north	bile	pea	cock	ball	north
womb	welsh	stir	ding	Christ	fifth
pimp	four	first	third	fourth	
sixth	ninth				

ONE SYLLABLE ICUNS

Homonyms.

whole-hole	feat-feet	doe-dough	vane-vein
isle-aisle	tare-tear	slight-sleight	core-corps
sole-soul	stake-steak	dear-deer	sale-sail
pall-paul	base-bass	tier-tear	peel-peal
plain-plane	fare-fair	two-toe	mane-main
kneel-Nell	maize-maze	plait-plate	rice-rise
roe-row	chute-shoot	writ-wright	dye-die
flour-flower	break-brake	mill-mill	ore-oar
all-saw	jam-jamb	beech-beach	bale-bail
cue-queue	stake-steak	mane-rain	hart-heart
hoop-whoop	sente-cents	naught-knot	pale-pail
boor-Boer	nun-none	tail-tale	load-lode
minx-minks	hoard-horde	belle-bell	buoy-boy
peal-veal	grip-srippe	sum-some	phlox-flock
piece-peace	base-bass	waist-waste	thro-throw
lyre-liar	cord-chord	serge-surge	wait-weight
knave-nave	male-mail	mote-mot	beer-bier
wrap-rap	fate-fete	bow-beau	gull-gilt
rite-right	root-right	route-root	nob-knob
stare-stair	lie-lye	reign-rain-rein	ark-arc
meat-meat	grease-greece	scent-scent	daze-days
style-stile	sight-site	faun-fawn	surf-serf
mean-mien	choir-quire	peer-pier	lute-loot.

TWO SYLLABLE NOUNS

Selected

alley	aspen	bottle	mamma	refuse	balsam
countess	cedar	navy	butter	plumage	danger
napkin	leader	feature	snowflaw	rabble	struggle
compass	desert	suet	whetstone	traitor	flapjack
filing	bandit	farming	sofa	distrust	chowder
lambback	rodent	junior	croquette	slander	agent
auction	adult	baseman	tempest	netting	salad
upstart	muslin	focus	willow	diet	pretense
goblin	hostess	bedding	bluebeard	falsehood	dentist
rascal	notion	mustache	tailor	grave	sachet
prelate	suction	parsley	fillet	excerpt	favor
pestle	monster	fluid	reman	ocean	pebble
dragon	bullfrog	consul	mimic	parchment	herald
binding	tunic	radish	beguile	snowshoe	bunny
freedom	archive	convent	bulthead	searchlight	cradle
verdict	stamper	vestry	laughter	football	poppy
accent	rafter	color	excuse	onset	seaweed
trestle	harpain	rugget	color	session	repast
darkners	vampire	satire	texture	raven	chamois
earring	protest	irprint	mania	offshoot	onrush
pocket	token	lion	bouquet	fixture	budget
demon	crystal	amount	target	desert	shortcake
damsel	steamship	muddle	outing	content	record
distaste	butcher	woer	vagen	carrice	courage
shutter	content	behest	quicksand	redwood	armful
rosebud	damask	liner	laundry	forfeit	sugar
asphalt	kitten	ermine	woodland	buggy	reply
seaboard	icing	refrain	senior	kinsman	petal
survey	army	deluge	doctrine	command	wolfdog
parcel	outburst	godders	bonfire	mansion	goldfish

TWO SYLLABLE NOUNSSelected

workshop	package	ballot	labor	cluster	dagger
scoundrel	weakness	tally	statesman	substance	postman
negro	terrace	beggar	nozzle	funnel	sailor
heaven	vestige	scullion	derby	thesis	lover
bodice	flytrap	wizen	honey	trumpet	dinner
knocker	candy	effort	fire safe	cynic	strychnine
lettuce	maker	hosshead	eagle	pellet	messmate
seedling	handcrring	preserve	infstep	peril	mustard
fighting	refuse	station	borax	success	barber
critic	tevern	roundhouse	workbag	primate	charcoal
fortune	butler	layman	hustle	excuse	bugbear
archer	rarson	annals	zenith	camphor	banjo
bounty	crawfish	deacon	curtain	ransom	squadron
canyon	florist	solace	charge	bully	keyboard
result	justice	earthwork	bullet	footslep	woodwork
outlook	signet	tinker	depot	morrhine	bandbox
aspect	fagot	manther	vanther	rebel	hissing
island	minstrel	outbreak	fender	nonlar	tablet
detail	homesrun	reader	squirrel	heartache	stipend
blacking	matter	novel	dealer	edict	bison
organ	flourish	packet	dial	torpor	hardship
beaker	decoy	union	tether	foothold	curfew
missive	number	research	kaiser	racer	vineyard
contact	orchid	heathen	cable	freshet	servant
liver	charger	disease	rampart	freckle	inning
forethought	mohair	benker	nutshell	hangman	bamboo
fakir	workbox	greyhound	tension	gossin	legging
flagstone	horsewhin	untruth	brunette	rosette	mason
caper	forum	handcuff	vizor	pastor	basin
panel	gingham	worker	retreat	ganle	concrete

TWO SYLLABLE NOUNSSelected

transport	statute	canteen	trifle	raisin	caress
nigger	trinket	salesman	crayfish	excess	becan
frenzy	trandoor	tendon	abbot	gutter	comet
unction	satchel	nygmy	rubber	twilight	aster
service	brandy	office	wagon	drinker	tabby
transit	glamour	doublet	adult	salmon	increase
vigor	wrangle	microbe	cruller	snendthrift	dandruff
uncle	cactus	beefsteak	vesper	pienlant	rebate
highroad	onyx	tenkard	banknote	atom	drawback
angel	tallow	bench	urchin	vortage	female
ravine	merchant	sunrise	carpet	hover	satcen
ague	liquor	chestnut	football	plumber	garbage
mischieif	distress	vermin	hobnail	alcove	nonsense
ticket	snowfall	retort	comfort	puril	finish
puzzle	keyhole	locksmith	carbon	coupe'	saddle
granule	engine	lackey	exchange	ambush	myrtle
sable	reading	fisher	shampoo	rhubarb	language
halimoon	gunner	banble	locust	precinct	tattler
tanner	baton	classmate	impress	snowflake	bidding
lawyer	handwork	study	gossiping	valise	anvil
stretcher	tumult	ulster	fossil	whistle	suspense
reptile	Satan	hemlock	greeting	design	centus
trapper	stomach	uproar	emblem	cambric	stunor
dastard	meerschbaum	clatter	larva	eyelid	draftsman
frontier	odor	carriage	steamer	battling	abscess
tunnel	express	cadet	bristle	blunder	purser
circle	merraid	sickness	bunion	holder	dragon
kinship	gerlic	cider	hairloom	scaffold	ballast
consent	forest	plaster	margin	coffee	premise
miser	habit	version	tadpole	gumption	

TWO SYLLABLE NOUNS

Selected

alarm	chemist	darling	fizzle	spectre
mushroom	elbow	drainage	hero	flutter
pastime	artist	chimney	legend	floUNDER
hoarfrost	schedule	disdain	inkling	medal
magic	advance	knansack	reddreast	peonle
beaver	vapor	nation	banter	awning
mainland	towel	combat	hornet	income
parent	steersake	sequel	sleeper	mercy
attiek	flavor	divan	pasture	snonsor
linen	sample	village	whiskey	smIax
revolt	spinach	expense	tattoo	hardware
timber	temple	Bible	defeat	usage
warvel	cornice	hotel	empire	chorus
contract	basket	framework	sinew	redress
mutton	kindness	batter	trigger	progress
trophy	rivet	postage	photo	discharge
meter	dryad	affair	scenter	firmness
Garland	banner	torrent	species	money
cartoon	outline	suburb	drawing	section
treasure	disgust	forenoon	practise	brindle
sally	program	amber	cupid	jury
iris	shanty	model	novice	fortnight
biggle	angle	cherry	lonking	crisis
sister	remark	battle	etching	handbill
gallon	reserve	prospect	almond	springtide
sheeting	wallet	swaniel	goatee	surface
worsted	berry	velvet	edging	padlock
career	dahlia	rumor	conway	dirlic
noodle	skillet	pretext	brother	thicket
bunting	mortgage	instinct	extract	insult

TWO SYLLABLE NOUNS

Selected

layer	campus	talent	heron	issue	cooky
brakeman	compound	riffall	conceit	glutton	druggist
lizzard	pongun	rover	sucker	pamphlet	blemish
limit	mastiff	sunshade	eyetooth	rival	adept
defense	carcass	orbit	pitchfork	glimmer	larynx
problem	eyesore	array	cutlass	pigeon	mankind
woodbine	regard	banter	riddle	winner	iron
creeper	attire	logic	tower	adase	encore
torsion	poker	spelling	blossom	rally	status
friendship	learning	knitting	loophole	dungeon	flynet
legion	captain	disproof	hireling	shoulder	balloon
lifetime	cricket	duster	flintlock	loveknot	mongrel
gesture	knowledge	ruler	clamor	turnoil	dory
wordarf	shamrock	musket	squable	lava	duckling
welfare	shrinkage	trade	breaker	hobble	message
leopard	ulcer	misap	seraph	abbey	blackmail
motor	dollar	foreground	story	viper	keeper
cleaver	manhood	pillar	coverd	airing	vilet
relapse	empress	capture	not mark	shutter	steamer
father	lattice	colfor	image	flywheel-	produce
hydrant	credit	kinsfolk	wasthead	spangle	azure
abbess	pepsin	onslaught	pheasant	oral	banquet
streamlet	conscience	pony	onslaught	judgment	lily
tureen	founndry	dripping	glacier	tissue	linden
threshold	vassal	minnow	tribune	police	actress
wayside	trellis	fancy	whipping	pullman	brocade
sausage	valley	barrel	stature	echo	hammock
ringlet	croquet	preface	accord	clergy	cuckoo
wardrobe	panic	octave	dolly	grammar	porcelain
turnstile	fiddler				classic

TWO SYLLABLE NOUNS

Selected

mammal
patience
tariff
crescent
orange
tulip
cleavage
printer
colleague
catarrh
scabe goat
cuthroat
pepper
arrow
copy
bacon
pirate
figment
patient
omen
compress
midget
cohort
repute
novel
flurry
sunspot
casement
garland
warbler

printing
decease
ration
inlet
halfbreed
spider
agate
fiannel
sandal
earthworm
peanut
envoy
shower
recluse
titter
coupon
carrot
window
concert
empire
weaking
brethren
landmark
treaty
lilac
twinkle
bearer
burlesque
mission
axle

cutler
thistle
comrade
fritter
sunset
hourglass
victim
grindstone
maxim
quartet
market
carrot
taffy
mallet
brightness
owner
hargnail
delta
settler
anneal
penny
system
cranny
custom
benzine
doctor
derrick
acre
nappy
footstool

valley
quarry
label
earthquake
rudder
sunlight
donkey
province
student
hatred
unrest
heiress
furlough
region
sunburn
billy
tackle
fountain
secret
prison
couplet
chapel
eyesight
cannon
bushel
trolley
griddle
allswice
snowfall
maiden

mortar
panceake
nickle
review
sirup
cover
rocker
ducat
turban
mattng
device
shingle
machine
decree
homage
fluting
trimming
district
redtane
ledger
error
exort
bias
award
hummock
sexton
larder
memoir
custard
powter

TWO SYLLABLE NOUNSSelected

ginger	canine	product	shilling	misdood
sherbet	kitchen	finger	escort	dipper
mattress	transfer	foible	leather	crayon
wagon	humor	duty	palace	damage
payment	keynote	proceeds	sovereign	reproach
furnace	warning	counsel	blackboard	order
folly	purchase	crossstitch	support	shepherd
lighthouse	button	ardor	fury	worry
degree	villain	splendor	eyebrow	rostrum
corner	posture	atlas	textile	earldom
cabman	title	jelly	vigil	cavern
grover	ribbon	exvert	girl	ranter
boom	bucket	portion	fragment	subject
cattle	sunstroke	boxer	bobwhite	disguise
linseed	glory	mammoth	sunshine	lozenge
exit	horror	weather	raddling	technic
label	premier	basis	leisure	clover
leper	meeting	otter	sunhur	barley
dwelling	vowel	basement	lemon	pumpkin
alloy	passport	holly	mantle	voltage
porridge	vision	rocket	athlete	partridge
windup	vessel	boulder	dressing	apex
kitty	misfit	factor	neglect	beauty
isthmus	pretzel	mouthful	globule	placard
asthma	duet	vicar	ankle	cashier
beacon	attic	snowshad	stirrup	fibril
huntman	muffin	campaign	forehead	apple
humpback	license	instance	shovel	pucker
toGo	remorse	swindle	locker	ointment
dullard	essence	finding	chipmunk	parrot

TWO SYLLABLE NOUNS

Selected

turquoise	vesture	eunning	blacksmith	blackbird	incline
impulse	garret	project	errand	polish	inflow
ideal	rancor	pistol	woodcut	farmer	roller
sorrow	rattle	quadrille	piping	flying	visit
biceps	mountain	hussy	cancer	pillow	mistake
laundress	duel	second	gallows	function	hindrance
clinic	shrapnel	arrest	drunkard	quibble	workday
guinea	conflict	middle	sealskin	acid	seaside
hunter	worship	pathos	comment	dammer	warfare
sewer	picnic	surname	meadow	bishop	venom
surgeon	footing	civics	toner	tyrant	business
rainbow	humbug	cabbage	outflow	planet	victor
handful	cargo	giant	valor	woodcock	swindler
zebra	castle	lecture	complaint	lightning	palsy
fashion	brier	cashmere	stable	olive	stigma
graphite	shadow	orchard	sinner	reprise	sheepskin
crater	notice	present	dairy	stallion	peasant
grandeur	shortland	renort	bar-pace	foldier	baker
nostril	pany	likeness	senate	tinsel	husking
recruit	posy	ceiling	devil	hammer-	mitten
suitor	fiber	crimson	delight	crier	papa
commerce	fortress	concourse	patrol	monarch	paper
woodman	linquist	arcade	wafer	winter	sewage
chapter	parsonit	gaiter	patron	vintage	gruel
wrapper	whisner	rity	landslide	river	setter
infant	fuel	cigar	pavement	pitcher	annex
tactics	motto	pressure	limestone	cobweb	parade
cushion	stencil	filly	mascot	shelter	cinder
native	browmic	eyeglass	cottage	chieftain	impact
fighter	slinner	canal	context		

TWO SYLLABLE NOUNS

Selected

rhythm	shipwreck	morsel	suffix	fungus	turnip
poser	onion	lesion	debauch	censure	treatment
failure	hazard	reindeer	pincers	lobster	cloister
profile	dandy	water	harangue	album	figure
quota	nephew	luggage	defect	despair	lacrosse
desire	yeoman	parting	driftwood	album	thimble
venture	herbage	lantern	rocket	honor	railing
frolic	quiver	scholar	freighter	despatch	costume
midgy	network	delay	pronoun	alder	noctar
jersey	idler	larkspur	aliget	canoe	resort
schottische	buzzard	cripple	hunger	muskat	skullcap
famine	puppet	oyster	password	Christmas	bulldog
moral	symptom	daisy	piston	robber	sergeant
ruffian	fairness	music	cunboard	ratter	handle
crocus	manle	window	rifle	science	grotto
foesarm	citron	recess	offer	eyeball	center
vaultice	building	riches	crossness	altar	heater
ogre	bedlam	language	deafmute	palmit	mattook
cement	distance	putty	actor	forecast	hermit
bullet	wrress	movement-	trombone	cardboard	portal
snowdron	anser	muzzle	witness	bolster	candor
cocoa	tenant	rector	porter	pension	address
huntsress	esneel	mildew	conner	lucre	rowdy
workman	contrast	cocoon	mirror	jewel	influx
babble	jaundice	pickaxe	warehouse	crying	message
cartidge	bigot	biscuit	discord	fever	checker
captive	seamstress	cracker	measure	berish	fervor
reform	pronoise	siren	musiar	crusade	seizure
hiding	foreman	brewer	series	minion	tiger
menial	throttle	season-	mistrust	surrer	tumbler
prior	bridle	paring	turkey	stable	planter

TWO SYLLABLE NOUNSRejected

tanglo	eyewash	chaos	roundup	vantage	hyphen
dropsy	potion	effray	seashore	vaccine	sinker
respite	angler	wigwam	instant	Thursday	wrinkle
kindred	corkscrew	flyleaf	riding	Sanskrit	verdure
Talmud	Sachshund	Monday	Trojan	drivel	option
treason	salvage	foretaste	neuter	fruitage	lowmess
baptism	debut	founding	finesse	manna	avail
guidance	fifteen	Sunday	cortex	Roman	keystone
manhole	monkey	marine	precept	receipt	pulley
Venus	lowland	reprint	polo	merit	ingot
rickets	dingie	center	virtue	elder	cycle
bullion	marriage	Cuban	toddy	curate	putty
harvest	Arab	unit	triolet	Zion	Indics
complex	goldfinch	tenor	dais	Mormon	Norseman
Grievance	polka	fristborn	tantrum	distaff	marksman
quintet	Hoosier	cutcourse	hanger	bailliff	bailliff
flotsam	*quadrant	absinthe	jobber	thirteen	furor
invoice	filtrate	Adam	impost	cycling	lovebird
biped	thyroid	swivel	bondage	lacquer	consort
courtier	standpoint	assault	Hebrew	Hades	disuse
northeast	envy	patchwork	redskin	flipper	July
talon	vanguard	German	furrow	elite	Chinese
malice	fixing	laurel	woodcraft	fatigue	hamlet
curry	cribbage	forelock	hybrid	climax	narrow
socket	furlong	Afghan	neuron	debris	Yankee
walnut	northwest	bubble	lasso	seedtime	dureas
cougar	ferment	frontage	surfeit	Allah	Baptist
thirty	many	hundred	Hindu	potash	duchy
stoppage	maintiff	bellows	pillage	rabus	fetish
sufrage	whitewash	eighteenth		eddy	barrow

TWO SYLLABLE NOUNS

Rejected

twenty	Friday	carmine	bracket	lightness	viscount
satyr	ruin	euchre	proxy	inland	ellipse
seance	pasty	constrain	stardrabe	placket	Tory
stucco	fauna	demise	votter	fittin	Russia
adieu	prestige	falcon	percent	tatter	shaker
floatage	madam	cube	Creole	Eden	congress
schism	esthete	eyeshot	Belgian	barouche	exmark
rupture	compact	quickness	Zulu	slavetrade	buckwheat
sentry	horscotch	etude	norther	billion	whittin
redness	roster	titan	roulette	hardness	Latin
Caesar	Wednesday	bosom	infield	verlet	Tarter
suspect	recourse	critique	pussy	ethics	Norman
duration	oblong	bivalve	warrant	junction	surcease
seizure	china	chamber	flatworm	trader	bladder
fissure	lying	quadroon	batter	mayor	corset
marshal.					

TWO SYLLABLE NOUNS

HOMONYMS

fairy-ferry
cellar-seller
assent-ascend
liar-lyre
brilliance-brilliant
counsel-council
minor-miner
palate-palette
burro-burrow-borough
border-boarder

idol-idyl
current-current
Briton-Britain
magnet-magnate
flower-flour
morning-mourning
dessert-desert
venance-pannants
canvass-canvas
instance-instants

manor-manner
symbol-cymbal
vial-viol
profit-prophet
missile-missal
metal-mettle
seaman-semen
coral-choral
surplice-surplus
travel-travail

THREE SYLLABLE NOUNS

Selected

soalingwax	portraiteau	gooseberry	privilege	contortion
mafter	undertow	gridiron	recompense	pompador
dissension	thoroughfare	antidote	sepulchre	ivory
numeral	bankruptcy	cavalier	amethyst	terminal
hurricane	envelope	auctioneer	caffodil	condenser
stimulus	appearance	extortion	concession	gradation
overcoat	fellowship	platinum	bravery	organist
tragedy	allotment	forefinger	banana	lookeron
overflow	adamant	minister	digression	violet
reprobate	heresy	adherent	arcsit	garrison
fanitor	minstrelsy	precedent	armory	appendix
directness	accuser	provender	battalion	mulberry
vagabond	burial	passenger	ringleader	mockingbird
ordinnace	sacrilege	creditor	seasoning	personage
discussion	quietus	honeycomb	abrasion	workwoman
dimity	ebony	monument	viaduct	umbrella
insertion	terminus	remission	abode	telegram
valentine	remainder	workfellow	behavior	contrition
manslaughter	omelet	elderdown	nutriment	anthracite
imbecile	appetite	mosquito	revolver	misfortune
alchemist	manuscript	phaeton	reservoir	incentive
granary	castaway	heroism	substance	handicraft
specimen	enigma	meteor	confection	creation
mercury	departure	constable	episode	diagram
batter	hysteries	engineer	mechanic	aperture
goldenrod	impostor	deference	discipline	taxation
injection	confessor	resistance	embryo	redemption
harmon	heaviness	lariat	magician	analyst
triangle	fiddlestick	nutliner	marmalade	exercise
pendulum	rendition	immersion	clarinet	gullotine

THREE SYLLABLE NOUNS

Selected

camera	artifice	dynamite	plantation	marigold	narrative
follower	anteroom	paradox	bluestocking	ascension	demagogue
faculty	pugilist	occasion	postoffice	refallion	sympathy
livelihood	sediment	scarcity	engraver	successor	edifice
rosewater	selfesteem	alumna	immortale	universe	quarantine
unison	strawberry	settlement	procuaine	infidel	oversight
democrat	sacrifice	dictator	instrument	antelope	elixir
inference	anarchy	perfidy	concession	quadrangle	kangaroo
instruction	abridgement	eulogist	allusion	indolence	butchery
stowaway	profession	mania	detection	adherence	epistle
decorum	buffalo	rottery	mackerel	notary	certainty
submarine	achievement	dressmaker	indulgence	currency	kingfisher
assessor	injustice	recital	psedonym	reversal	aptitude
succession	horizon	family	egoism	quicksilver	wallflower
discordance	bombardment	promenade	interim	enamel	financier
religion	festival	relation	spectacle	avenue	frontispiece
vertebra	persimmon	cocoonut	baluster	brodical	reprisal
livery	indigo	chastisement	arrangement	maniac	theorem
pretension	dialogue	integer	comunction	deserter	larceny
assumption	extinction	annoyance	chandelier	memory	prospectus
landowner	disposal	diffidence	macaroon	landlady	neighborhood
esthetics	devotion	obstacle	evidence	gardener	pavilion
icicle	lemonade	togger	monitor	contrivance	troubadour
expressman	bookseller	gunpowder	commandment	boundary	encampment
sonhomre	cobblestone	contraction	butterfly	eraser	
meadowlark	laborer	attachment	inquiry	hyacinth	calico
columbine	comedy	finale	numery	repentance	batchelor
equipment	sublicant	drudgery	odium	chloroform	counterpart
amendment	liberty	reviewer	excursion	anecdote	insolence
avarice	chivalry	pyramid	director	attendant	vestibule

THREE SYLLABLE NOUNS

Selected

fortitude	chariot	injury	maneuver	amazon	policeman
pedestal	injunction	refugee	dignity	believer	rehearsal
serenade	chafinidish	labyrinth	ambulance	asylum	autocrat
improvement	restaurant	sandpaper	permission	arbutus	midsummer
restriction	decadence	investive	undertone	brigadier	clergyman
leadership	witchhazel	vapacy	cranberry	reflector	arrogance
telephone	elation	dominion	hardihood	gunnery	citizen
masquerade	altitude	suicide	promotion	ballade	discomfort
decanter	revival	consequence	monograph	attribute	terrarin
repulsion	buttercup	barytone	massacre	amateur	confusion
proposal	acquaintance	hospital	denial	champion	afternoon
gentleman	arrival	cartilage	appliant	evening	presumptio
disorder	gondola	intention	hermitage	possession	company
protege	airness	flycatcher	compulsion	guarantee	inertia
destruction	countersign	implement	syings	pajamas	tablespoon
industry	ritual	equity	ornament	candidate	obaisance
depression	jubilee	assignment	evensong	spectator	precision
embargo	quantity	infancy	discernment	evasion	collion
Glycerine	atmosphere	editor	governor	procedure	cornerstone
register	counterpane	diadem	nuclage	exhaustion	persuasion
forester	homy	chiffonier	agressor	sorrano	expletive
providence	daredevil	rinnacle	lineage	engraving	venison
apricot	elephant	objection	wilderness	monogram	expression
prophecy	reunion	armament	compliance	profession	surrender
deduction	lullaby	obsession	gratitude	notato	fanatic
portico	horseradish	innocence	rieanist	factory	cruelty
aroma	edition	idea	cataract	transacation	citadel
turnover	infection	refusion	dilemma	comodore	tentacle
summary	revelry	communion	loneshoreman	reverence	andiron
cholera	litany	habitant	womanhood	diary	parody

THREE SYLLABLE NOUNS

Selected

emulsion	department	alchemy	usury	pinafore
impudence	vigilance	albino	melody	courtesy
depenence	tapestry	maszine	cookery	admittance
piano	interview	concensus	mendicant	customer
jealousy	pleasantry	interment	disrepute	musician
eruption	tuition	comosure	elopement	bumblebee
readiness	windiness	oculist	exansion	assembly
veranda	invalid	nickrocket	frailty	phonograph
destiny	celery	adviser	stringency	chaperon
banister	conviction	railery	deputy	complexion
patrician	deficit	obelisk	density	reaction
reprimand	donation	autograph	lubricant	infantry
eulogy	cameo	fishery	catacomb	virago
disregard	credentisl	virity	condition	bookkeeper
pedagogue	dravery	effusion	furniture	honeymoon
misery	vacancy	cantata	stockholder	mocassin
concealment	essential	conference	egotist	parasol
distemper	amusement	minuet	quadruped	argument
bicycle	corridor	carnaval	abdomen	firmament
curvature	raymaster	asbestos	crucifix	document
satirist	illusion	officer	bartender	ancestor
comradeship	variable	copyright	mistletoe	endowment
katydid	omission	pelican	endurance	descriptio
carnation	gasoline	royalty	miracle	conduction
dictation	abjution	synonym	impetus	adoption
diaphragm	armistice	disruption	bystander	taffeta
average	medicine	calendar	restriction	hemorrhage
diplomat	adjustment	ministry	estimate	diploma
gallantry	luxury	alfalfa	definece	foolscap
syndicate	eskimo	arousal	trachea	companion
	Vatican	approval		

THREE SYLLABLE NOUNS

Selected

photograph	barbecue	violence	alumnus	cavalry	opera
tournament	chanticleer	vermillion	scavenger	demeanor	contractor
assassin	revulsion	predicate	collector	delusion	infamy
likelihood	crinoline	unbelief	commission	angeworm	handwriting
assurance	scientist	catalogue	provellor	commotion	patriot
exception	opponent	mastery	charity	holiday	combustion
suggestion	employer	dowager	convention	masseering	tobacco
parasite	affection	jaguar	fisherman	distinction	overskirt
abandon	cornulence	norcullis	addition	commander	aversion
displeasure	president	appliance	ovation	confession	observance
corporal	rantalon	heroine	divider	artisan	competence
machinist	partition	century	character	vanity	pioneer
shortcoming	reflection	correction	auditor	convenience	lieutenant
multitude	policy	civilian	penitence	consumption	convulsion
quality	enactment	library	distinction	bakery	rhapsody
protector	flattery	cylinder	resatta	bandanna	interval
amplitude	apathy	opium	disarray	nucleus	elegance
pharmacy	homicide	poverty	crocodile	betrotal	residue
dialect	ligament	tannery	synopsis	increment	rosomary
disbelief	aversion	parazraph	violin	apartment	modesty
scrutiny	percentage	foreigner	enlthet	potency	sauerkraut
alphabet	centralto	axiom	comforter	permittance	ignorance
explorer	origin	mountaineer	enemy	messenger	appointment
attitude	porulace	employment	figurehead	effigy	refinement
alarmist	conveyance	allegiance	chemistry	finery	prosely
noetry	flypaper	accomplice	risty	alderman	chocolate
contention	liniment	reony	iodine	criminal	angora
architect	crucible	area	reszine	adventure	militia
ecstasy	mandolin	foundation	particle	handkerchief	symphony
selfcontrol	abatement	probation	rudiment		

THREE SYLLABLE MONS

Rejected

souvenir	depletion	conjunction	admission	partisan	esplantine
inaction	botany	assertion	adjourment	exemption	covering
disrespect	volition	humanist	customhouse	excellent	humanism
margarite	forfeiture	intercourse	rotentate	pleurisy	emission
battlement	symmetry	temperance	alienist	libretto	surmation
tarpaulin	loveletter	fallacy	parliament	concretion	freemason
promotor	detriment	sanctity	citation	safety	inclosure
buoyancy	impatience	lymphatic	energy	aggregate	cynicism
heraldry	communism	defective	coquetry	electrode	penury
environs	narcissus	phantom	everglade	tyrannur	erasure
excreescence	resemblance	aeronaut	fatalism	coroner	glossary
filament	maximum	incapitor	Venetian	hypnosis	casiness
intimate	condolence	exodus	Lutheran	conjunction	ni gnette
eviction	magnitude	seccordance	foolery	Mikado	statellite
exchequer	clemency	privation	negation	excellence	indenture
imminence	perfection	storachache	contagion	sovereign	corrosion
confidence	Pacific	furrer	mannerism	reversion	eczema
syllable	chambermaid	rechanist	iota	vestarday	votary
Minerva	disfavor	nutrition	covenant	defaulter	libation
desertion	solitude	sophistry	horoscope	selfrespect	auphony
harbinger	macadam	incisor	extension	arrianaide	denizen
flotilla	retina	remarriage	enlargement	detracton	declension
induction	secretion	landlubber	rectangle	narcotic	element
initial	chastity	arsonal	reverence	consonant	Zodiac
myriad	unicorn	saliva	abstraction	jeopardy	substitute
condiment	agreement	Jezebel	humankind	ordinal	substantive
dillifence	negative	underling	filigree	abolish	legation
connective	reverent	manicure	recreate	elision	retainer
unconcern	revery	correction	laity	cognomen	rotunda
	imagery	prototype	atrophy	betterment	leprosy

THREE SYLLABLE NOUNS

Rejected

contusion	matricide	epigram	Indian	emery	dogmatism
India	radical	contentment	celluloid	pancreas	agnostic
stonement	flamellum	Pentecost	frequency	Portuguese	intestine
drollery	trinity	fixedness	equation	metronome	cornea
socialism	effininess	iciness	obtrusion	pubicium	criticism
designer	cuttlefish	Egyptian	emersion	pantalots	longitude
emlasure	epaulet	lovenaking	foreknowledge	burglary	openwork
demerit	idiot	selfdenial	overtone	terragant	fruition
severance	hecallus	narcosis	palpation	imptotence	federal
corperent	vantheism	projector	dilution	idleness	tutelage
manacle	pessimism	rendezvous	belustrade	Jamaica	handiness
levity	exponent	centrifrade	custody	decoction	bifamy
renegade	overtime	altruism	listarine	handorgan	vertebrate
contraband	truancy	Renaissance	la. f. i. d. e	proctrolasm	sacrament
ordinate	arrangement	requiem	confir	precursor	cuttlebone
lunacy	mechanism	autopsy	fixity	platitude	neurosis
annual	paglism	sedition	African	fixation	nobody
orifice	outbalding	elusion	osmosis	precedence	physicist
cutlery	coterie	vehicle	seduction	barbarism	displacement
commitment	vararon	decency	inclusion	lanition	complainant
unity	Atlantic	notation	nihilism	logarithm	erieure
earthiness	December	manual	sodium	witticism	monologue
multiple	adhesion	discretion	minimum	amoeba	ridicule
crudity	rockingchair	erosion	berleycorn	selfdefence	connection
clairvoyance	homily	consistence	regicide	preemtion	creosote
abhorrence	Italian	metaphor	emergence	petticoat	mazurka
mutiny	eclogue	loveapple	errancy	colonist	benefice
hollowness	plebeian	surety	cosmetic	billetdoux	irony
asterisk	remonto	Hercules	eleven	escusaul	forestry
expulsion	Catholic	continent	Saturday	plcthora	connoisseur

THREE SYLLABLE NOUNS

Rejected

accia	absentee	mesmerism	synthesis	Adonis
egotism	hostelry	prudery	mysticizer	banderín
sufferance	ostracism	cataclysm	linotype	suffrance
allopatri	travesty	alias	epigraph	almighty
medican	cynosure	September	percussion	detachment
opiate	vagary	misnomer	aorta	amnesty
regimen	malady	ellipsoid	underpay	monotone
tabouret	conduct	somerset	cadaver	paroxysm
exposure	rheumatism	demonism	amalgam	devotee
Methodist	fixation	alibi	demijohn	audition
habitude	sesame	organdy	perdition	protestant
Norwegian	eightieeth	presentment	diocese	communist
servitude	ecuntor	adjutant	commonwealth	Jehovah
magnetism	liberal	nitrogen	alpaca	hypnotism
simile	portiere	recession		

HOMONYMS.

oracle-arricle	complaisance-complacence
divisor-diviser	princival-principle
councillor-counselor	comptroller-controller
cereal-serial	gorilla-gorilla
capitol-capital	compliment-complement

ONE SYLLABLE VERBS (tr)

Selected

preach
jerk
read
play
back
tease
lease
lack
pour
scare
pitch
fetch
lash
fail
whirl
stop
can
etch
aim
snap
wrench
pull
dance
slam
stuff
brush
wink
run
sell
hit

draw
sink
grind
mass
veil
dim-
skim
bethe
view
trade
solve
hush
pad
greet
close
blind
stone
crown
drive
learn
darn
husk
mind
chill
chant
bolt
bolt
teach
notch
soak

split
cash
weave
flop
ease
lick
pick
trim
thwart
blow
naz
mount
hate
tan
mix
rob
slash
chop
smoke
jurn
want
mark
prove
flank
take
lap
wreathe
hurt
shake
dress

leave
cork
crack
quit
pack
speak
plead
soothe
nunch
chase
skin
shift
save
jeer
prop
crash
arm
watch
aid
screw
steal
sweep
chap
mess
weigh
say
name
blesch
oil
snot

drift
trill
rouge
quote
drape
pinch
heat
taunt
tag
use
smite
tan
peg
loop
ram
halt
bite
show
blame
train
twirl
bind
cross
scrub
choose
pawn
voise
bark
quiz
touch

soil
heal
date
lift
waste
earn
sip
drench
mail
pat
bang
smirch
shut
curve
blast
sniff
mince
hone
rend
plan
vex
drill
bar
brand
boss
tegs
spout
dread
cap
oust

ONE SYLLABLE VERBS (tr.)Selected

forge	lock	hitch	splice	hook
steer	time	shout	pry	start
singe	hound	toss	pay	curl
scold	sound	nod	spread	rub
scquelch	change	hug	pace	state
snub	ape	mow	stock	mob
blend	fight	end	haze	dry
taste	fix	bake	breed	scry
shell	lore	fit	mould	hold
whet	cool	stab	mock	calm
harm	maul	snuff	match	grip
thank	coach	keep	do ^{er}	posch
plug	graft	salt	coax	punt
poet	wean	comb	haunt	beat
taek	clench	rear	rule	droop
scrane	guess	hoe	fling	thrash
puff	wound	seize	throw	strike
catch	warn	clutch	tilt	grab
string	bait	starch	rouse	lisp
strew	fleece	sing	bet	tire
twine	champ	set	scald	boil
scour	pin	shad	rear	nurse
send	dent	shoot	spray	print
stun	deal	loathe	dock	probe
mar	spin	please	rout	tread
sail	turn	hurl-	search	part
charm	snip	buy	clothe	swing
scale	gouge	daunt	rend	scan
shine	crease	lynch	bat	strain
tip	spill	blaze	bob	boom

ONE SYLLABLE VERBS (tr.)

Selected

box	graze	grow	shrink	shun	sign
spare	sway	tend	loot	crush	swear
burst	ford	rake	crowd	braid	plane
feed	ride	click	slay	row	shield
mask	help	find	riague	cut	fill
check-	kill	freeze	gnaw	stretch	bend
thread	douse	hurt	cheat	twist	yell
nick	give	starve	flash	file	breathe
wed	press	cut	price	hinge	sap
fold	pass	bridge	count	plant	streak
call	raid	voice	hew	slight	trap
waft	lace	fan	carve	join	heed
choke	tax	break	heave	fine	cause
scent	vote	clip	doom	stir	fire
cure	wage	free	load	ring	lay
beg	clean	nudge	trot	sort	thump
daze	gorge	solve	dig	fry	thrust
claim	scorch	chip	sute	vaint	tuck
wind	plow	make	bump	sting	crunch
plot	brave	guide	roll	shear	move
cheer	cook	wear	switch	till	urge
churn	owe	force	rinse	haul	roam
clasp	tour	launch	still	wag	rip
gag	snatch	serve	trick	meet	flap
praise	tow	stamp	rash	tear	thrill
poke	dredge	hang	nurse	dust	wend
cleanse	drift	let	rush	bruise	clog
nip	eat	blink	dab	light	chape
bribe	wake	air	trust	kiss	hem
reach		stare	tie	drop	shirt

ONE SYLLABLE VERBS (tr.)

Selected

miss	wash	wield	hear	taint	smell
pet	crop	mop	snur	yank	eke
fear	burn	blight	shrug	knock	milk
ask	hoist	shift	dip	pile	brew
swamp	prod	climb	act	broil	thaw
stack	glaze	note	scalp	chide	gulp
bluff	suit	crimp	fell	hail	hiss
dupe	wilt	bring	roast	like	drain
hum	own	own	bounce	scratch	place
spend	trace	hatch	swish	pledge	don
hide	crum	flaunt	tell	nail	shade
throng	build	stew	preen	quench	rue
drawl	spurn	kick	blot	stain	lend
fly	halt	grease	doubt	coil	jar
score	fool	slide			

ONE SYLLABLE VERBS (tr.)Rejected

wade	feel	spring	sue	dole	belch
dwarf	soar	scorn	test	dot	pelt
bank	slip	foal	twitch	dub	stem
twit	curse	bid	wish	tramp	foist
dare	mat	arch	tempt	try	brace
sport	swell	fade	pop	dream	dream
urge	chafe	suck	flood	get	crowd
shame	merge	foil	pierce	thrum	rig
feign	rape	pain	yield	grave	flip
trump	plunge	dine	gripe	walk-	clear
form	wipe	mess	rate	prick	stick
treat	charge	fleck	dun	flay	ooze
ding	beck	croon	squirt	flick	swab
dump	cast	coo	cruise	screw	skin
deem	cost	nose	sear	spoil	put
stand	bleed	whisk	flush	parch	prize
crave	grant	sweat	tick	toll	lure
scheme	gore	tweak	trip	seat	gain
look	vow	filch	cry	weep	list
deck	mesh	lull	maim	slent	cull
rid	jolt	clan	crash	stud	land
ply	souse	add	sup	chain	lodge
gauge	quaff	snit	wreak	mean	strip

ONE SYLLABLE VERBS

Homonyms

dye-die (intr.)	pair-pare	pique-peek (intr)
wave-waive	bare-bear	dam-damn
raise-raze	peel-peal	bail-bale
wrest-rest	wring-ring	rein-rain (intr) -reign (intr)
hoard-horde	sight-cite	weight-wait (intr)
sew-sow	rap-wrap	

TWO SYLLABLE VERBS (tr.)Selected

inspect	escape	decoy	unveil	unfold	shackle
receive	vacate	embrace	wiggle	secrete	defame
incur	limit	control	surmise	wilfer	abhor
declaim	forsake	season	measure	congeal	heighten
edit	confide	forbid	immede	withhold	puncture
bombard	horsewhip	forestall	appraise	contrive	revile
riddle	install	salute	compare	dictate	finish
vanguish	proffer	cremate	frizzle	study	alarm
detain	instil	conduct	promote	hurdle	uproot
deserve	excuse	transform	carry	destine	sunburn
bisect	pronound	soften	attach	transport	disclaim
elude	prepare	involve	lower	swaddle	outwit
smother	translate	enroll	preserve	parboil	relish
conquer	despatch	indorse	waylay	fathom	echo
protect	endure	confuse	chastise	devict	accuse
detect	jingle	upturn	purchase	afflict	embalm
misjudge	pity	desert	rebuff	offer	refresh
suggest	transmit	allege	reverse	refresh	engulf
pardon	tickle	support	sharpen	enhance	excite
uphold	weaken	avage	impart	disperse	pester
provide	unlift	argue	adore	forgive	commence
import	consult	portray	unlearn	decrease	reward
betray	blackmail	manage	reclaim	renair	instruct
corrode	scribble	suspect	revive	console	unmask
merit	varnish	favor	upset	preface	oblige
deepen	nibble	borrow	command	defy	return
ignore	lament	outclash	detach	enlist	unlock
fracture	discard	threaten	ripen	model	solder
compose	boycott	divide	muster	poison	assume
improve	reflect	whiten	attempt	rummage	hinder

TWO SYLLABLE VERBS (tr.)

Selected

enchant	cancel	hurry	shuffle	export
tackle	infiltrate	subtract	perplex	disrel
dangle	boonitice	befriend	invest	swallow
lighten	bequeath	adjust	efface	revere
produce	detail	decide	aroint	embroil
crumble	pollute	revise	counsel	evade
crinkle	kindle	destroy	exert	prefer
frustrate	arouse	broaden	shingle	cheapen
s'trengthen	increase	debate	whistle	cheaper
pucker	derive	blaspheme	obey	admire
entrust	dislike	indent	derange	donate
refute	emit	surrass	mention	flatter
confess	entreat	follow	blindfold	repress
strangle	inject	discharge	entrance	purue
crumple	trouble	exclude	rotate	deflore
unloose	defraud	believe	behead	exalt
engulf	absorb	confound	increase	applaud
absorb	loosen	exile	entwine	prevent
insure	toughen	pronounce	bother	dissuade
scribe	transplant	attain	filter	tinkle
buckle	convoy	distrust	honor	tamper
exceed	implore	besiege	acclaim	descend
displease	apply	combel	avenge	remind
perjure	enjoy	extract	perform	devise
anger	deny	eclipse	issue	rumple
fondle	divert	approve	fritter	promise
marry	express	emboss	reprint	mislay
conceal	deluge	convey	fancy	babble
sully	finance	unearth	enthrall	lavish
				challenge
				polish

TWO SYLLABLE VERBS (tr.)

Selected

implant	exchange	worship	cherish	neglect	upbraid
balance	equip	renounce	rehearse	decree	bartize
obtain	indulge	suppress	afford	adopt	withstand
detect	fumble	refine	convene	frighten	array
utter	adorn	throttle	bestow	acquire	reform
pickle	resume	explain	succor	behold	visit
veto	inhale	explore	traverse	tender	focus
browbeat	blaster	complete	purpose	foretell	bolster
discuss	recount	answer	hoodwink	convince	restore
muffle	arrest	chasten	survive	advise	avert
reprove	elect	dispute	garble	report	unroll
explode	pommel	transfer	disperse	defeat	require
collect	relieve	allow	parry	convict	unite
dislodge	buffet	notice	imprair	exploit	disarm
resent	capsize	consume	radden	entail	accept
repeat	omit	sadden	forego	coddle	revenge
perade	common	erect	marshal	molest	release
roughen	adjourn	design	fulfill	assess	cuddle
engage	ascend	regain	squander	impress	open
succeed	deface	insult	urloin	covert	harass
handle	offset	imply	debar	discount	misprint
paddle	provoke	imbiba	recife	outlive	disolve
undo	dazzle	astound	divulge	prolong	endow
tattoo	recruit	submit	buffle	evolve	audit
enchroud	warble	surmount	refuse	enter	correct
forewear	apral	muddle	hampar	retrace	maltreat
rescue	display	tether	rumble	flatten	banish
repulse	murmur	observe	distend	color	slacken
remit	dethrone	disprove	invert	arband	proclaim
		revoke	affix	amass	repral

TWO SYLLABLE VERBS (tr.)Selected

inspire	attack	enact	label	delight	arrange
surprise	launder	sustain	berate	rebuke	esteem
mutter	invade	ferment	resign	accost	vaggle
propel	define	confer	extort	attend	comfort
nurture	stiffen	order	blister	stifle	disdain
bias	delay	jostle	relax	distort	enrage
compute	beguile	relate	debase	amaze	amaze
ordain	perfect	rattle	banquet	iron	replace
outgrow	swindle	compress	retouch	assign	assist
depress	lecture	contract	paper	cover	incite
defend	straighten	humor	select	transnose	incite
libel	tutor	reckon	darken	ensnare	prepay
injure	fluster	deflect	practise	imbue	begin
engrave	inform	combine	affront	sample	postpone
explore	record	deport	abash	bandy	thicken
invite	persuade	forecast	level	lessen	sprinkle
master	dumfound	eject	suffuse	demand	consign
congest	enlarge	enrich	plunder	assort	mistrust
shovel	decare	dampen	bully	beseech	unfurl
slander	insert	disrupt	bevel	disguise	voidure
review	devour	usurp	anoint	supply	nourish
erase	repeal	surround	vamper	settle	patrol
deprive	spatter	mislead	offend	bemoan	shelter
reveal	pillage	transgress	denounce	devote	advance
forebode	locate	forfeit	render	disturb	harden
expel	accent	dilute	herald	regret	sunder
annex	powder	perturb	abuse	augment	approach
license	secure	degrade	perceive	describ	deceive
flavor	commit	brighten	address	exhume	deafen
enclose	extend	disband	prescribe	achieve	resent
infest	subscribe	retrieve	acquit	scatter	dismiss
escort	retard	fetter	transact	impose	restrict
retard	disclose	tarnish	forget	misguide	suspend
				assert	condemn
				retain	curtail

TWO SYLLABLE VERBS (tr.)Selected

lather	deaden	allot	dilate	malign
construct	subdue	exhale	renew	impench
rustle	ruffle	invent	rehash	extol
profess	flourish	retail	rather	direct
enforce	infer	affect	confirm	assail
curry	curtain	concoct	resist	project
confront	inscribe	appease	employ	untie
compile	impel	affirm	ransack	menace
remove	oppress	reserve	defer	obscure
wager	imprint	levy	publish	delude
hemstitch	lengthen	inflict	unload	contrast
mimic	deform	survey	disown	amuse
second	enthrone	crochet	exound	attract
bungle	curdle	decline	gobble	hasten
infect	chagrin			

TWO SYLLABLE VERBS (tr.)

Reflected

readdress	deceive	construe	elate	excise	expunge
abase	trifle	bedeck	pervert	adjure	disrobe
eschew	corral	wobble	diffuse	repent	denude
esconce	premise	mature	restrain	despoil	garble
suppose	condone	preclude	rejoin	nicket	disbar
bereave	banter	eavesdrop	induct	addle	constrict
welcome	displace	abduct	betroth	pretend	dispose
annul	confine	pivot	inure	deter	es-truege
gainsay	unnerve	disburse	conjure	adapt	endear
dribble	immerse	avail	dismount	decey	conceive
include	except	deplete	alloy	intend	disjoint
inquire	re-trench	corrupt	vomit	erurt	expand
behoove	tumble	desire	attire	subject	upheave
ravel	travel	cobble	ruvey	relay	compass
absolve	discern	beget	coerce	indict	constrain
wallop	regale	grumble	belie	maroon	connect
better	solace	ripole	nestle	disgorge	disrupt
forage	excrete	repay	warrant	outdo	maraud
vary	cas+rate	oppose	burrow	account	admit
induce	befall	erect	precede	contest	comprise
beckon	decant	ruin	bellow	seduce	value
submerge	allure	deride	unsex	mangle	portend
denote	undress	fixate	divest	gar-nish	exog1
deduct	foster	joggle	erode	embed	confute
assay	transfix	recoil	straddle	equate	treble
ravish	absent	wrinkle	cut-gel	evict	become
permit	abstract	exude	enfold	ally	diet
commute	water	taboo	twinkle	retract	abjure
deduct	alter	accord	devil	presume	defile
withdraw	transcend	taper	exempt	lasso	contain
rupture	outstretch	convulse	assure	unbend	expose

TWO SYLLABLE VERBS (tr.)

Rejected

figure	suckle expire	assault hobble	amend refer	mingle	abide
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Homonyms

Peddle-pedal

THREE SYLLABLE VERBS (tr.)

Selected

oversee	imperil	devastate	gratify	fabricate	alternate
lubricate	rebrimand	incubate	summarize	comprehend	amputate
interpret	decorate	sanctify	scandalize	marry	separate
modulate	enliven	liquify	elevate	deliver	hypenate
isolate	concentrate	disconnect	eulogize	persecute	discover
notify	teleshone	reinforce	countermand	overdo	perforate
magnetize	deposit	overcome	counteract	beautify	beautify
interlock	decipher	uncover	potrify	inhabit	replenish
disabuse	realize	punctuate	masticate	interline	uncouple
continue	centralize	permeate	enfranchise	critique	subdivide
admonish	occupy	liberate	overlook	benefit	duplicate
purify	ventilate	manicure	dishearten	upholster	scrutinize
overflow	disconcert	navigate	relinquish	dishonor	abolish
overrule	disobey	understate	embitter	minimize	tantalyze
verify	imitate	memorize	solicit	crystallize	irrigate
intercept	disarrange	moderate	rectify	signify	recover
determine	unravel	reunite	organize	stipulate	investigate
certify	overwhelm	celebrate	recommend	represent	desecrate
penetrate	consider	overreach	acknowledg	interest	advocate
undertake	indicate	diagnose	attribute	embellish	tabulate
legalize	disbelieve	exercise	civilize	tranquillize	venerate
underscore	vaccinate	encumber	astonish	contradict	sacrifice
reproduce	entitle	overrun	oblige	horrify	vindicate
prosecute	aggrieve	edify	obliterate	stimulate	encounter
elicit	clarify	simplify	outnumber	acclimate	dismantle
discolor	sublimate	undermine	overtake	illustrate	disfigure
expurgate	liquify	stunify	ennoble	remember	overturn
ascertain	improve	embroider	register	presuppose	overthrow
contemplate	satisfy	underpay	utilize	embattle	terrify
disable	imagine	disappoint	ratify	overstate	discourage

THREE SYLLABLE VERBS (tr.)Selected

vivisect	unsettle	copyright	disinfect	captive
aggravate	designate	fumarate	counterfeit	distribute
saturate	overawe	embarrass	irritate	endanger
perpetrate	overlap	fascinate	glorify	satiate
emphasize	discredit	justify	assemble	overhaul
belittle	insulate	mystify	multiply	abandon
accomplish	remodel	segregate	dominate	nominate
terminate	nullify	imprison	recollect	confiscate
countersign	overhear	catechise	intersect	misinform
alienate	undergo	prophecy	subjugate	volunteer
dedicate	specify	dissever	suffocate	reinstate
overlap	prohibit	operate	burglarize	decompose
encourage	substitute	encircle	supervise	exhibit
interpose	agitate	dislocate	examine	circulate
extricate	mortify	reassure	introduce	recognize
tolerate	telegram	extinguish	overcharge	foreshadow
estimate	distinguish	antedate	constitute	overgrow
resemble				

THREE SYLLABLE VERBS (tr.)

Rejected

inveigle	enervate	populate	circumscribe	enlighten
illumine	interperse	lacerate	extirpate	actuate
illumine	accustom	expedite	procreate	deprecate
typify	domineer	dignify	analyze	apprehend
impregnate	forfeign	obscure	entangle	obscure
sublimate	vitalize	inculcate	diverge	polarize
underline	elongate	aggregate	fertilize	localize
mollify	mitigate	predispose	minister	emulate
annotate	equalize	disallow	emender	ramify
propagate	unify	underrate	obviate	transfigure
indispose	dissuade	subsidize	exonize	correlate
mediate	reimburse	sursecede	envelop	interlace
disparage	congressate	decimate	antecede	comprmise
circumcise	predestine	inhibit		

CHE SYLLABLE VERBS (intr.)Selected

stoop	doze	laugh	cringe
race	ebb	snarl	provl
pray	speed	blush	grin
err	saunt	vout	sob
chime	vine	yawn	swish
bounce	swirl	croak	yearn
toil	boast	rise	purrr
live	swoop	groan	foam
stap	dart	feast	bray
limp	crisk	pause	wail
stare	skalk	growl	walk
now	delve	balk	leak
yowl	creep	swir-	buzz
trudge	swerve	quake	camp
effe	gasp	flow	leaf
flour	moan	dic	waltz
quack	sulk	squeal	rush
whoop	roul	bloom	plod
spar	moni+	kneel	smile
scream	crow	gleam	lurch
flirt	dote	flow	dwell
crawl	itch	flap	lie
leak	dive	thirst	cough
snay	dash	flap	stream
sag	rage	fret	prance
leap	howl	strut	ache
fall	flit	vant	neigh
float	roar	squint	scoff
gluck	rot	creak	lounge
blink	browse	glide	stare
bud	sit	squall	flounce
brag	fish.		hop

ONE SYLLABLE VERBS (intr)

Reflected

deign
peep
spawn
wait
rove
last
fast

peck
he
bale
flinch
bound
vince

squat
drop
bulke
pall
come
shall

stave
course
bay
seem
see the
prate

gaze
band
teem
troop
vouch
verge

lapse
cope
perch
write
peer
must

Homonyms.

reign-rain-rein (tr.)
wait-weight (tr.)
die-dye (tr.)
peak-pique (tr.)

TWO SYLLABLE VERBS (intr.)

Selected.

despond	connive	blunder	rejoice	converse	languish
hover	swagger	cohere	tarry	relapse	collide
decay	eddy	wonder	abound	thunder	succumb
discourse	cauter	barbain	ho-bnob	timber	loiter
ensue	rebound	zigzag	assent	concur	jangle
shimmer	sparkle	perforate	clutter	parble	collapse
resolve	flicker	subside	to-ddle	grapple	sally
waver	repent	cater	demur	embark	portent
object	revel	wrestle	glisten	parley	relay
compete	elope	wriggle	intrude	conflict	straggles
vander	stumble	feeder	assist	battle	brizzle
freckle	quaver	tamper	cover	recline	arise
relent	bubble	wither	clamber	pertain	straggle
gallop	tremble	re-ely	blie-cough	flounder	condole
dissemble	emerge	squabble	reside	chatter	saunter
amble	quibble	suffer	perspire	stutter	whinny
appear	ponder	hurtle	depend	tattle	whinny
alter	perish	trickle	comply	abstain	snuggle
content	beware	encroach	decamp	quarrel	repine
exult	remark	prattle	grovel	berken	diverge
stagger	proceed	reside	fidet	subsist	whimper
recur	alight	smoiler	shudder	struggle	prosper
clatter	fizzle	scamper	titter	vanish	incline
giggle	respond	crackle	caekle	behave	resort
fiddle	glitter	frolic	sojourn	aspire	depart
reason	shiver	exclaim	flutter	patter	bivouac
secede	triumph	linger	arise	suivel	marvel
stammer	tally	retreat	surgle	dwindle	tr-spass
missip	belong	totter	occur	repose	chuckle
blossom	bluster	rebound	sputter	recede	pulsate
desist	wrangle	huddle	consist	wallow	partake
consent	remain	tingle	haggle	quiver	prevail
falter	scurry	vibrate	rumble	quiver	savor

TWO SYLLABLE VERBS (intr.)Rejected

abscond
accrue
adhere
dicker
agree
program

conform
daily
revert
dissent
exist
digress

swelter
amount
dawdle
account
pander
purport

ferret
suffice
protrude
refrain
allude
imringe

angle
accede
impend
tossy
rumor

outcrop
rebel
labor
retire
listen

THREE SYLLABLE VERBS (intr.)Selected

deviate	immigrate	fluctuate	intercede	legislate	coincide
correspond	disapprove	palpitate	countermarch	disappear	testify
oscillate	persevere	theorize	disembark	endeavor	oversleep
meander	percolate	overhang	speculate	emigrate	acquiesce
emanate	undulate	meditate	coexist	gravitate	sympathize
intervene	condescend	gormandise	hesitate	convalesce	interfere
moralize	culminate	disagree	remunstrate	justify	

Rejected

preexist	altercate	evanesce	vegetate	interact	temporize
retrograde	disincline	militate	ulcerate	miscarry	

PRACTISE DAY 1

<u>1 syll. adjs.</u>	<u>1 syll. nouns</u>	<u>2 syll. adjs.</u>	<u>2 syll. nouns</u>	<u>2 syll. adjs.</u>	<u>2 syll. nouns</u>
mere	scrap	formless	cobble	unlike	sadler
first	month	Belgian	telltale	putrid	object
nude	creed	mushy	chilblain	snowwhite	suckling
two	lick	aglow	nothing	messily	pedant
next	grace	hairy	bigness	fourfold	quickstep
west	trend	ribald	Sabbath	hidebound	fiefder
jet	nine	strongy	elect	oliant	Psalter
back	five	frugal	intert	entire	Tuesday
six	rock	latent	booby	rhonic	stammer
sparse	cowl	southeast	asset	massy	specie
most	rot	snappish	comma	sinless	eighty
worse	snare	fourteen	falseness	Norman	flexor
prime	fluff	abject	thousand	mawkish	sector
rank	hop	forty	slattern	elfish	middle
third	mash	gluey	raining	gritty	wallow
much	hulk	adept	docket	thousand	sorghum
one	puss	obscure	million	better	extent
east	slack	eighteen	acme	inert	surplus
ninth	writ	alpine	total	exampt	liter
sound	bean	lovesick	drier	loathsome	ratio
three	rot	racy	cosmos	untoward	ditto
eighth	spoke	unborn	friction	Roman	quadroon
nine	rut	German	wobble	agape	outskirt
hind	volt	gay	badness	advance	truism
teeth	breast	verbal	fifty	obscene	Bacchus
dire	trump	noiseless	scion	forstrate	midway
dank	norm	morose	bastard	intact	seven
chaste	kind	sooty	semblance	tactile	lovefeast
few	sop	fifteenth	mytic	obese	crossroad
each	Czar	Prussian	doomsday	lucid	thorax

PRACTICE DAY 3

<u>2 syll. adjs.</u>	<u>1 syll. nouns</u>	<u>2 syll. adjs.</u>	<u>1 syll. nouns</u>	<u>3 syll. nouns</u>	<u>2 syll. nouns</u>
virile	Turk	natty	dress	shortsighted	maggot
sixty	shank	squeamish	thrall	presumptive	filler
thirsty	screw	lustrous	huff	flagellant	mistress
monthly	watt	farther	noun	voluble	egress
cognate	gland	viscous	whit	insinid	storage
toxic	sup	moody	skin	apronos	spectrum
lustful	flip	prudish	manx	flamboyant	killer
pendant	batch	focal	wasp	inherent	spearmint
undress	seed	limpid	tryst	didactic	bottom
merry	warb	ninety	heaves	thirtieth	dictum
direful	spawn	effete	gram	seventy	amends
laughid	dump	Irish	Celt	today	today
devoid	vogue	sixteen	Grist	electric	concord
dulcet	Mars	eighty	foil	tractable	adverb
Chinese	strain	loveless	pint	adnrose	Christian
extra	tan	eastern	eaves	unfaling	Virgin
upstairs	Creel	concave	young	emulent	caller
crisscross	back	Danish	crank	emergant	Spaniard
crystal	Swede	eastward	tab	disruptive	alito
fetid	stint	eighteen	rick	probably	default
northwest	ten	highflown	stud	synchronous	autumn
innate	Swiss	English	deuce	prolific	Irish
hindmost	lymph	akof	slings	precreant	public
fleccid	dune	million	six	tendinous	flapper
neither	Horse	overt	two	insurgent	affray
smutty	lust	Christian	dram	debonair	inquest
astral	slph	Swedish	oat	nolitic	disent
duplex	verge	northeast	crim	affecting	upstairs
fivefold	drake	futile	twelve	sixtieth	respect
hirsute	ace	thirty	cock	veracious	sequence

REGULAR DAY I

<u>1 syll.nouns</u>	<u>2 syll. nouns</u>	<u>2 syll. adjs.</u>	<u>3 syll.nouns</u>	<u>3 syll.adjs.</u>
hat	anchor	muddy	apparel	domestic
clam	grinder	upper	preference	receptive
sneer	muffler	murky	cuticle	crystalline
share	statement	ragged	transition	descriptive
pulp	incense	flimsy	hypocrit	heavenly
crunch	cudgel	sleery	embassy	scandalous
swish	rigor	vivid	tallyho	deductive
freak	skipper	partial	cremery	scholastic
blight	keepsake	human	urprising	lucrative
leap	beeswax	heedful	forefather	recumbent
clue	bracelet	foxy	muskmelon	luminous
dense	peacock	skittish	disclosure	ruinous
strange	ravel	gothic	stadium	savory
league	live	snowy	exertion	pitiless
gai.	bugle	gory	overalls	usual
dike	vortex	soggy	management	baptismal
slaw	column	golden	pretender	counterfeit
mound	inroad	robust	landholder	lineal
key	sermon	warlike	skeleton	usable
lad	baseant	rival	matinee	roundabout
risk	helmet	gorgeous	beverage	decimal
earl	powcorn	ablaze	riparable	intrinsic
wing	fellow	greedy	orient	contented
tar	social	unknown	incision	portable
wreck	esquire	shaky	verpermint	constructive
drove	fasher	graceful	nursery	unfaithful
scream	diction	senior	lavender	consistent.
pump	resource	unhurt	bobolink	dominant
snob	folkronz	sharp	republic	unrighteous
chop	restraint	hazy	insurance	delightful
scop	snowstorm			

REGULAR DAY 2

<u>1 syll. adjs.</u>	<u>1 syll. nouns</u>	<u>2 syll. adjs.</u>	<u>2 syll. nouns</u>	<u>3 syll. adjs.</u>	<u>3 syll. nouns</u>
brusque	crash	unread	creature	dignified	orchestra
wide	span	middle	poster	consequent	example
scarce	badge	glossy	stanza	aqueous	molasses
white	niche	many	hatchet	cardinal	tendency
rice	boast	fervid	melon	elastic	barricade
scant	curve	frantic	orphan	immortal	reception
moist	leech	recent	ending	lovable	lookingglass
bold	swatch	stir	ostrich	incomparable	assessment
lame	log	flaky	shekel	contingent-	vocation
big	paint	tiresome	plenty	respective	cinnamon
high	ink	naulin	journal	suggestive	rattle snake
best	cane	unreal	ally	resplendent	magistrate
saunt	point	marshy	account	unbalanced	acceptance
lost	trot	quiet	bluebell	excellent	caravan
tough	nurse	maple	absence	legible	onlooker
harsh	drudge	verdant	crowbar	unwilling	survivor
calm	bead	magic	peddler	envious	raspberry
dull	deal	flabby	relish	loquacious	stiletto
shy	morgue	polite	vallor	desolate	hobgoblin
gray	sway	formal	legion	unwary	agency
shrill	hug	velvet	colic	erudite	monarchy
blue	fringe	marine	margin	substantial	delegate
short	corn	stubby	rubbish	esthetic	rebellion
scow	siege	finny	horseshoe	tubular	museum
round	mor	porous	wedlock	possessive	direction
broad	cow	fatal	reward	conjugate	postmaster
deft	steam	mental	outrage	deftitude	scorpion
shrewd	clerk	puny	membrane	incumbent	pharisee
tart	tribe	prahic	nuisance	angelic	avowel
just	soup	ornate	cafe	downhearted	subtlety

REGULAR DAY 4

<u>1 syll.adjs.</u>	<u>1 syll.nouns</u>	<u>2 syll.adjs.</u>	<u>2 syll.nouns</u>	<u>3 syll.adjs.</u>	<u>3 syll.nouns</u>
tall	bump	sullen	martyr	arrogant	forbearance
stout	clang	intense	sherry	payable	advancement
loose	turn	sulky	jackal	submissive	digestion
straight	map	asthat	handwork	exotic	excitement
false	pill	slender	romance	efficient	domicile
tame	thrift	tepid	sanction	conceited	bitterness
drunk	ball	bitter	relic	roseate	typewriter
slim-	verse	sudden	blister	unruly	oriole
fair	gout	unformed	coupling	reluctant	pedigree
sleek	fair	leral	outfit	inherent	utterance
vast	din	rapid	entler	absorbent	stratagem
brief	proof	naughty	detour	conested	sunbonnet
tense	sap	level	squalor	dramatic	constancy
long	truce	nasty	vencil	affected	enmity
spare	drug	modern	sapphire	dissolute	dividend
clear	breath	leadn	eyepiece	essential	alliance
deep	grunt	ghastly	surrey	spurious	immigrant
fast	trace	anxious	merman	impulsive	eminence
blond	van	savage	triumph	incisive	conundrum
meeek	noise	avid	discourse	subjunctive	offering
new	firm	stiney	menace	talkative	manikin
fresh	ship	swale	fable	ordinal	chicknpx
thick	tuft	skilful	razor	tremulous	brewery
hard	cheek	antique	traffic	becoming	arena
cold	squaw	lenient	sonnet	connective	theater
left	mule	plucky	landlord	resultant	protection
light	foam	trusty	output	peniless	embankment
cheap	lord	scanty	vrairie	defiant	admiral
dead	sronse	inner	adjunct	accused	retinue
burnt	frost	ready	penknife	redundant	attention

REGULAR DAY 5

<u>1 syll.nouns</u>	<u>1 syll.adj.s.</u>	<u>2 syll.nouns</u>	<u>2 syll.adj.s.</u>	<u>3 syll.nouns</u>	<u>3 syll.adj.s.</u>
tact	slick	contour	lively	sycamore	dolorous
depth	prompt	tribune	intent	avalanche	acoustic
churn	glum	hockey	amust	furbelow	temporal
gap	dry	crevasse	perfect	quandary	classical
blur	crisp	hometead	matchless	telegraph-	dangerous
slab	odd	return	superb	carpenter	ignoble
zinc	low	aprlause	arid	upheaval	taciturn
sky	coy	insect	faithless	tradition	emphatic
hilt	blank	solder	baneful	diffusion	federal
ranch	old	camel	supreme	formula	repulsive
club	keen	vaudeville	homesick	ambition	barbaric
salt	dim	truant	oral	election	unconscious
beef	fine	insight	subtle	proceeding	expressive
arch	bed	prelude	vivole	employee	grammatic
slash	swell	harness	lifelong	remembrance	eastern
hope	bright	guitar	wooly	strategy	almighty
car	frail	clearance	likely	mineral	negative
fad	lank	runner	tidal	etiquette	comical
drill	bluff	meaning	further	sensation	unholy
shack	droll	counter	stringent	cranium	ethical
flesh	sour	drawbridge	modest	inflexion	positive
lot	bald	viant	finel	prejudice	devious
sip	trite	pinion	malow	abstinence	ambitious
loan	steer	satia	stony	government	seclusive
class	dark	railroad	woody	acrobat	whimsical
stilt	brisk	millar	balm	kerosene	insolent
ceve	safe	solinter	frigid	norinae	magnetic
shad	mir	champagne	splendid	canteLoupe	organic
bit	sane	pottage	linen	oasis	shortwinded
war	late	knuckle	langed	hollyhock	

REGULAR DAY 6

<u>1 syll.adj.</u>	<u>1 syll.nouns</u>	<u>2 syll.adj.</u>	<u>2 syll.nouns</u>	<u>3 syll.adj.</u>	<u>3 syll.nouns</u>
blithe	couch	listless	downfall	responsive	compassion
apt	sob	random	oven	inventive	mockery
buff	pate	icy	gymnast	unrivaled	suicide
ripe	rat	unkempt	bouquet	humorous	abundance
pure	gun	shallow	tenure	tremendous	wayfarer
staid	sprig	many	gizzard	rational	creator
queer	ache	scarlet	rummy	devoted	radiance
poor	muff	flashy	poultry	intricate	privacy
quick	bun	coary	dotage	conversant	dimension
stiff	roof	offhand	raddle	studious	fugitive
sad	sow	wary	huckster	national	dishonor
plump	feud	rotten	crevice	corroal	suspender
sharp	tile	wakeful	regime	contracted	colony
fierce	hill	lofty	upset	inclusive	parachute
mild	lamp	beastly	cousin	negligent	institute
firm	crest	spiteful	exile	numerous	construction
sick	splint	yellow	charter	general	official
neat	thrill	wondrous	painter	hesitant	doggerel
snug	brude	shameless	harelip	judicial	treachery
pink	lake	facile	entrance	intrepid	boulevard
rare	vond	sovereign	mandate	delicious	possessor
sore	blame	fateful	parlance	resolute	hickory
lone	vile	single	uplift	clamorous	aurora
stray	skunk	postal	sauntlet	destructive	molecule
warm	soot	wicker	freer	infectious	telescope
red	haste	redhot	wicket	unfolding	opinion
veal	lime	wooden	being	unfounded	committee
terse	vile	heinous	upshot	oneiron	animal
staunch	yelp	frequent	steward	unfeeling	earth
terse	hell			retentive	nightingale
vile					
frank					

REGULAR DAY 7

<u>2 syll. nouns</u>	<u>2 syll. nouns</u>	<u>2 syll. adjs.</u>	<u>3 syll. nouns</u>	<u>3 syll. adjs.</u>
access	ivy	rugged	folio	haphazard
measles	harem-	foggy	elector	exclusive
body	permit	sturdy	mechanics	authentic
matron	raffle	dusty	sonata	virtuous
passage	fodder	boundless	November	coherent
robin	thunder	sleety	countenance	repentant
herring	plaza	latest	slavery	absolute
culvert	holby	drowsy	location	imperfect
painting	poison	homelike	ancient	external
effect	riot	fervent	malatto	affable
mouthpiece	decrease	severe	piazza	accurate
primer	partner	florid	eyewitness	elusive
roaster	decade	serawny	affluence	odious
trooper	swallow	oblong	receive	secoctive
granite	dormer	urgent	balcony	various
felon	archway	prostrate	archery	tentative
standstill	snowdrift	hungry	favorite	quarterly
volume	hardtack	stately	torpedo	unpleasant
physique	esben	haughty	emotion	palatial
churchyard	pantry	draughty	overshoe	desirous
footprint	virtue	unwise	dramatist	financial
outpost	conquest	flossy	hobbyhorse	offensive
speaker	turtle	oaken	advantage	previous
deceit	walrus	crooked	vaseline	corpulent
nickname	parlor	haunted	sempster	infernal
sago	coffin	endless	invasion	piteous
dummy	tincture	variant	handiwork	ludicrous
pinkeye	headstog	fertile	courier	extensive
candle	orthole	sordid	bungalow	horrible
ringworm	era	hasty	authress	integral

REGULAR DAY 8

<u>2 syll.adjs.</u>	<u>2 syll.nouns</u>	<u>3 syll.adjs</u>	<u>3 syll.nouns</u>	<u>3 syll.adjs.</u>	<u>3 syll.nouns</u>
humane	statute	barbarous	salvation	vertical	disaster
gracious	dogma	maternal	robbery	vertinent	narrator
sickly	filter	movable	assemblage	corrosive	utensil
filthy	courtship	ungracious	congestion	parnicious	conductor
occult	journey	aggressive	Puritan	existent	horsepower
local	sweeper	repellent	hemisphere	renitent	oration
swampy	piviot	untidy	dynasty	dastardly	absorbent
solid	poet	convulsive	crockery	possibile	detection
tranquil	lotus	granular	highwayman	exhaustion	rhetoric
lonely	trial	spitiless	nicotin	magical	mayonnaise
honest	illness	inconstant	valmistry	sensible	carousal
sincero	saber	decorous	invention	untimely	tenement
portly	table	unlikely	sunflower	sonorous	bayonet
outer	shaver	objective	conjecture	ostensive	hippodrome
secure-	tremor	insular	gallery	insolvent	acquitall
deadly	member	negligee	difference	impressive	covardice
frosty	accused	scrupulous	assortment	commonplace	descendant
profuse	zither	filial	innkeeper	radiant	perspective
inside	pilot	merciless	canopy	disloyal	merchandise
lazy	kingdom	discordant	history	prominent	corruscle
stupid	solo	covetous	volunteer	religious	appendage
ferrid	goodwill	sufficient	decision	nonparless	caravan
firstclass	negress	changeable	harminess	permanent	davenport
vocal	laudecabe	delinquent	crashshopper	bountiful	microscope
solemn	bluefish	colossal	advocate	formial	discontent
floral	supply	attentive	edible	formative	agony
wistful	outlaw	amarent	adjective	compliant	property
heavy	portrait	datiful	underworld	physical	castiron
sorry	sardine	consummate	submission	pretentious	arsenic
artful	varole	personal	physician	courageous	supplement

REGULAR DAY 9

<u>2 syll.nouns</u>	<u>2 syll.adj.s.</u>	<u>2 syll.nouns</u>	<u>2 syll.adj.s.</u>	<u>3 syll.nouns</u>	<u>3 syll.adj.s.</u>
rabbit	tireless	foeman	outdoor	proviso	implicit
duchess	misty	result	pious	exclusion	feminine
noe turn	divine	August	unclean	tobogan	obnoxious
mischance	corrupt	process	rasty	decoration	singular
forcepump	docile	brigade	orange	consciousness	expensive
postscript	eager	pedal	lifeless	athletics	mercantile
boycott	chilly	neighbor	clammy	commencement	inductive
adder	devout	writing	optic	whipoorwill	erratic
forger	clumsy	minute	simple	attainment	reticent
garnet	dorsal	tumor	wiry	handicap	halfhearted
parley	tasteless	summons	humble	existence	creative
faction	darling	bronco	chunky	collection	enormous
scripture	breathless	culture	feeble	rectitude	illnatured
Gipsy	curse	platter	dandy	mackintosh	maternal
embrace	nervy	caucus	regal	decimal	ultimate
cologne	ashamed	trapeze	nealy	guardian	unequal
request	crucial	bridegroom	nervous	heronet	miscreant
finame	hurtful	blaver	jolly	centipede	despondent
idler	windy	cabin	airy	instructor	criminal
harebell	fragile	dessert	obtuse	disciple	deficient
dodger	distant	goblet	luckless	varadise	timorous
libel	plaintive	ember	drizzly	albatross	readable
beseball	livelong	college	frothy	explosion	typical
motive	native	soda	certain	talisman	primary
plumb ^{ing}	finite	pittance	lover	position	thunderous
mirage	southern	Sultan	jealous	earthenware	untraveled
pennant	massive	anguish	busy	irritant	odurate
Girdle	little	lawsuit	wormy	precipice	annual
outlet	youthful	donor	alert	mimicry	radical
	minus	outcome	dowdy	intellect	evergreen

REGULAR DAY 10

<u>2 syll. adjs.</u>	<u>2 syll. nouns</u>	<u>3 syll. adjs.</u>	<u>3 syll. nouns</u>	<u>3 syll. adjs.</u>	<u>3 syll. nouns</u>
future	descent	rickety	veteran	benignant	occurrence
charming	hemstitch	watery	afterthought	rebellious	period
frightful	bloodhound	outrageous	midshipman	musical	politics
complex	contempt	terrific	prominence	autumnal	hyena
bloody	greenhouse	natural	egoist	orthodox	reticence
coherent	fortoise	unlawful	heritage	edible	lunatic
common	ladder	plebeian	humorist	immodest	collision
huxon	divorce	secular	runaway	specific	lethargy
childish	tassel	malignant	audience	respectful	countryman
flippancy	rawhide	intensive	trickery	sensitive	subscription
upright	author	sporadic	barrier	exultant	pestilence
impure	repair	unwitting	preamble	compulsive	midwinter
gaudy	cochine	tortuous	orator	bodily	retrospect
colored	alfront	ungainly	alternate	maximum	honesty
blissful	reason	evasive	funeral	feverish	felony
pungent	nursuit	passable	terrier	conious	coverlet
faulty	abrrs	miserly	eventide	corrective	temptation
conscious	transom	ungrateful	foliase	extrinsic	sisterhood
bossy	alien	defensive	domino	unwholesome	vinegar
younger	wizard	impolite	nutcracker	temperate	sentiment
needy	epic	tankible	retention	romentous	rattletrap
tiny	mixture	productive	provision	passionate	tornado
cruel	charade	overland	cabinet	effective	premium
irksome	sawling	fantastic	retirement	terminal	signature
friendly	collie	illegal	conclusion	abusive	vehicle
triple	mummy	mutual	assistance	orderly	exhibit
sundry	hornpipe	uniform	fantasy	infinite	impression
noble	silver	relative	coyote	fraternal	formation
fearless	genius	sinister	dismissal	marvellous	gelatine
bugus	havoc				

DOUBLE ASSOCIATIONS

<u>1 syll. adjs.</u>	<u>1 syll. verbs</u> (intr.)	<u>2 syll. adjs.</u>	<u>2 syll. verbs</u> (intr.)	<u>3 syll. adjs.</u>	<u>3 syll. verbs</u> (intr.)
white	stoop	ragged	abscond	contented	deviate
huge	chime	human	rejoice	delightful	disappear
nice	toil	slow	terrify	elastic	oscillate
sweet	think	greedy	collide	immortal	endeavor
lame-	doze	frantic	succumb	excellent	overhang
thin	laugh	quiet	loiter	desolate	correspond
late	talk	graceful	sparkle	ponderous	meditate
swift	blush	polite	repent	indolent	sympathize
blue	yawn	modern	elapse	eventful	condescend
rich	skate	sullen	compete	tenacious	hesitate
loud	rise	ready	stumble	unhappy	disagree
gay	live	shallow	rebel	envious	justify
round	cease	yellow	arise	conceited	coincide
young	wait	single	relent	talkative	testify
free	come	famous	wither	penitents	persevere
good	faint	pleasant	chatter	+remulous	emigrate
clear	swirl	hungry	suffer	dangerous	undulate
numb	grunt	crooked	arbear	ambitious	interfere
dark	sneer	deadly	lavor	humorous	realize
dry	fret	heavy	quarrel	devoted	calumniate



V I T A

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Mildred West Loring was born May 4, 1891, in Tacoma, Washington. She received her elementary education in the public schools of Tacoma and Seattle, Washington, and of Vancouver, British Columbia, and her secondary education in the Seattle High School. She received the degrees of A.B. in 1912 and M.A. in 1913 at the University of Washington, and held the Sarah Loretta Denny Fellowship during the year 1912-13. The year 1913-14 was spent in further graduate study in Psychology at Bryn Mawr College. She has pursued graduate study at the Johns Hopkins University in Psychology during the years 1914-16. The dissertation research has been carried out under the direction of Dr. Knight Dunlap, and courses have been pursued in Psychology under Dr. Knight Dunlap and Professor John B. Watson, in Physiology under Professor W. H. Howell, and in Psychiatry under Professor Adolf Meyer. She has held the University Fellowship in Psychology during the current year, and has been awarded a Sarah Berliner Research Fellowship for the year 1916-17.







