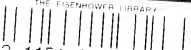


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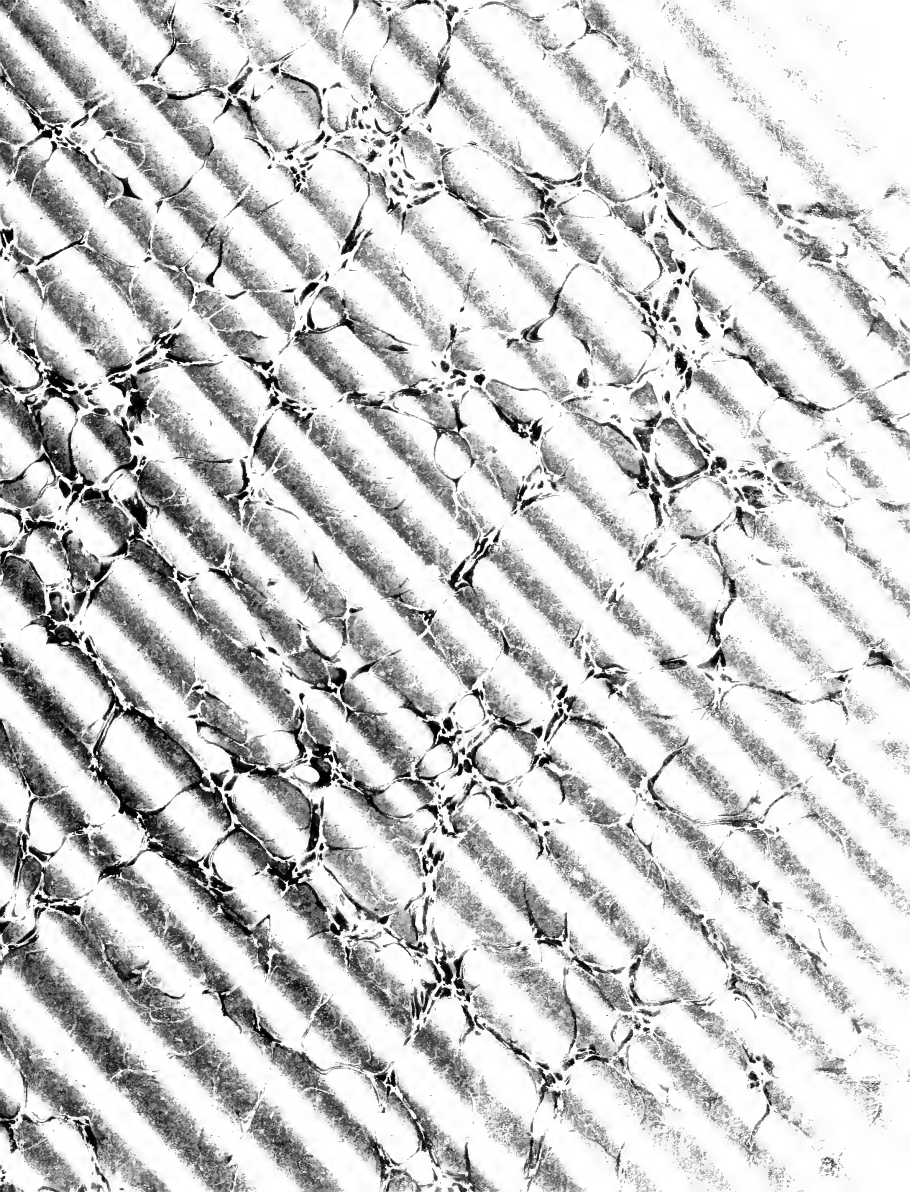


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METHODS OF STUDYING CONTROLLED WORD ASSOCIATIONS

by

MILDRED WEST LORING

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A DISSERTATION

Submitted to the Board of University Studies of the  
Johns Hopkins University in conformity with  
the requirements for the degree of  
Doctor of Philosophy

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1918



## ACKNOWLEDGMENTS

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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 reverby 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)



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.

Liehen, 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, perservations, 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 Harbe'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.

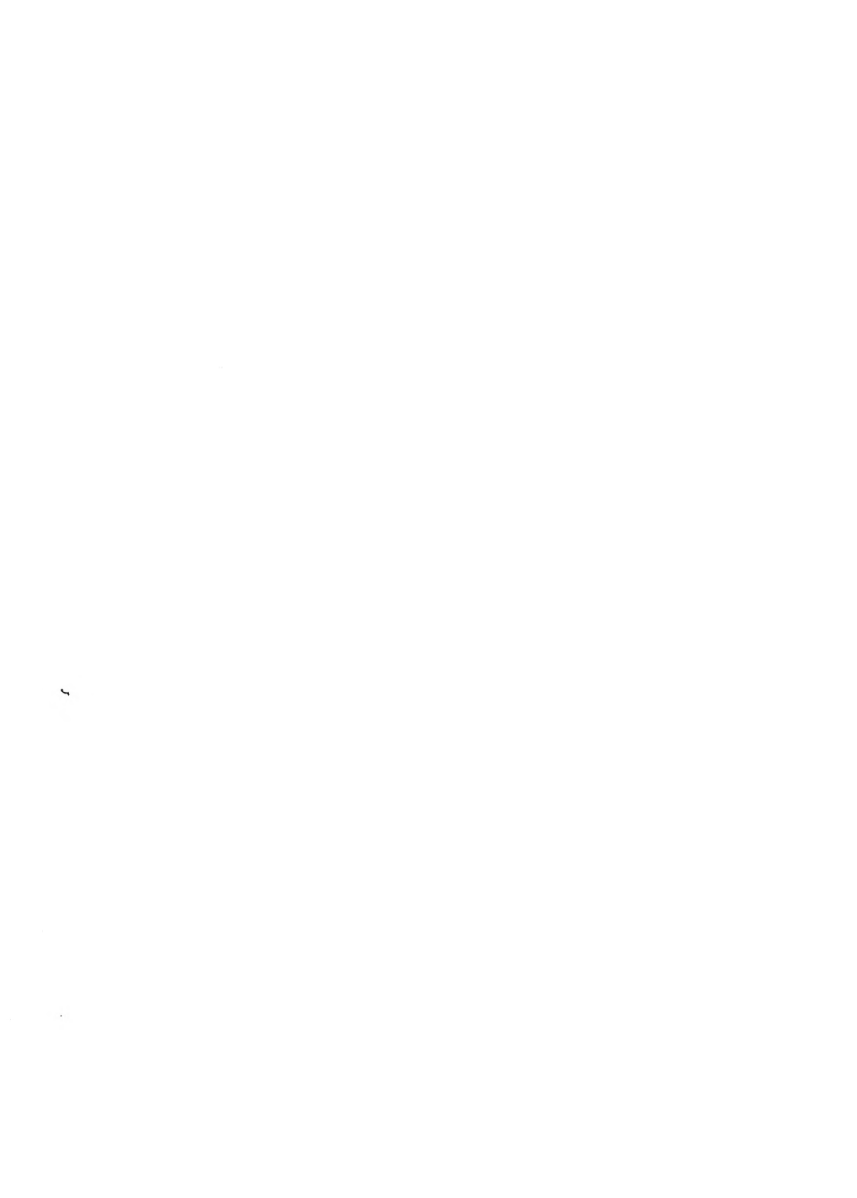
Meumann, 1907 (91), investigated the effect of different types of instruction on the reaction time and the content of the association. The first type of instruction was to react as quickly as possible leaving everything else to chance. The second type of instruction was to react only after the meaning 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 explain 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 <sup>the</sup> 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 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 noun as its 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 contact 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	306	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 No. - 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. He 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.)

Re. 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 the 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 2 syllable nouns and adjectives.  
1 list each of 3 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 those 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 2. 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 IIIPurpose 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 1500 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 mode	Adjs. mode	Nouns mode	Adjs. mode	Nouns mode						
Ro.	7-800	956	6-700	790	6-700	872	5-600	634	-	-		
Ch.	6-700	689	7-800	1007	6-700	698	7-800	1105	6-700	796	9-1000	1271
Po.	4-600	569	6-700	865	5-600	664	7-800	875	5-600	690	7-800	1009
Li.	--	--	6-700	854	--	--	7-800	859	--	--	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 nouns (unselected)	
	<u>av.</u>	<u>cases</u>	<u>av.</u>	<u>cases</u>
Po.	679	352	694	365
Ro.	616	363	647	374
Ch.	802	368	770	371
			<u>av.</u>	<u>cases</u>
			812	11
			729	12
			788	16

Subject.	3 syllable adjectives (unselected)		3 syllable nouns (unselected)	
	<u>av.</u>	<u>cases</u>	<u>av.</u>	<u>cases</u>
Po.	1017	981	996	582
Li.	850	1014	843	611
Ch.	1254	950	1297	579
			<u>av.</u>	<u>cases</u>
			947	45
			784	49
			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		AE		B	
	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.		
Ro.	554	759	144	860	152	765	34	777	46	811	17	815	68	827	175	832
Ch.	673	1011	188	1099	198	962	54	1039	67	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	803	6	1034	52	865	64	888

2 syllable.

S.	IN		AN		AC		VG		PB		EM		AE		B	
	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.		
Ro.	1051	852	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. PE-parts of body. EM-feelings and emotions. AE-abstracts. E-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		AE		B	
	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.	cases	av.
Ch.	454	1269	322	1350	222	1349	38	1169	12	1167	23	1387	275	1452	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	1581	1271
Po.	1517	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	45	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
500	0	0	7	0	0	2
600	16	4	57	3	20	1
800	53	64	210	47	112	2
1000	58	193	216	150	187	26
1200	37	233	168	210	162	82
1400	26	196	119	205	103	162
1600	13	185	53	186	70	198
1800	3	125	45	186	35	153
2000	4	111	17	152	30	159
2400	1	75	4	97	9	154
2600	0	68	2	105	6	129
2800	0	52	0	68	3	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	C	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 Resection Times-Subject - Ro.

SIGMA	1 syllable		2 syllable		3 syllable	
	adjectives	hours	adjectives	hours	adjectives	hours
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	97	342	39	-
1800	25	79	35	228	10	-
2000	0	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. resection time

1912

1324

1744

1268

(sigma)



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		13
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  
(sigma) 1708

1674

1692







TABLE IX.

Preliminary Practice (3 days)Average Reaction Times for 1-2-3- Syllable Adjectives and Nouns

SUBJECT	1 syllable		2 syllable		3 syllable	
	av. adjectives	av. nouns	av. adjectives	av. nouns	av. adjectives	av. nouns
	cases	cases	cases	cases	cases	cases
No.	767	1076	174	1041	136	901
Ma.	658	1064	887	1277	171	1081
Ia.	933	1860	1310	1888	130	1269(1)
Cl.	969	1651	1317	1871	125	1547
Mn.	917	1593	1310	1759	114	1502
Sc.	863	875	795(2)	984	118	921
Ba.	816	1503	1066	1584	123	1228
Ye.	852	1488	1283	1860	171	1564

Multily 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	32	6	15	0
1000	68	32	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	39
2000	2	10	11	18	21	25
2200	0	3	5	14	13	27
2400	1	1	4	8	8	15
2600	0	3	1	2	5	15
2800	0	3	0	11	5	13
3000	0	0	0	1	4	4
3200	0	1	1	5	2	4
3400	0	2	2	3	2	5
3600	0	0	0	1	2	1
3800	0	0	0	1	0	0
4000 etc.	0	3	1	2	3	2
Total cases	179	175	347	354	351	348
av. reaction time (sigma)	598	792	601	853	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.

SIGMA	1 syllable		2 syllable		3 syllable	
	adjectives	nouns	adjectives	nouns	adjectives	nouns
400	0	0	C	C	C	C
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	<u>76</u>	53
1400	18	<u>38</u>	32	<u>45</u>	48	<u>52</u>
1600	5	<u>21</u>	18	51	31	<u>47</u>
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
Average 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	57	11	40	2
1200	31	17	56	29	46	11
1400	37	21	48	32	45	27
1600	13	21	33	46	44	28
1800	15	14	28	27	32	29
2000	9	20	23	32	22	27
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	7	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	2	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	76	1
1400	18	18	45	28	47	21
1600	19	12	35	35	45	28
1800	20	17	36	33	28	33
2000	7	14	23	33	31	27
2200	9	16	21	28	22	22
2400	4	11	12	24	15	26
2600	2	15	13	23	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	340	336	343	344
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	hours	adjectives	hours	adjectives	hours
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	26	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	32
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	26
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	338	337	359	349
Av. reaction time (sigma)	1738	1918	1630	2358	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	52	23	74	15	31	9
1200	39	39	73	73	69	57
1400	19	35	72	72	56	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)

174 351 344 334 1714 1790 310 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	38	14	63	13	37	6
1200	39	26	59	37	42	21
1400	15	25	40	37	37	26
1600	17	14	24	36	32	32
1800	6	11	23	19	23	32
2000	2	14	16	16	23	25
2200	7	13	23	17	21	35
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	5	6	8	10	4	11
3400	2	6	1	8	5	13
3600	3	3	7	9	5	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	1	10	3
1000	<u>27</u>	13	52	20	18	10
1200	<u>27</u>	22	<u>40</u>	35	32	21
1400	18	23	46	28	26	32
1600	22	24	74	39	29	28
1800	12	<u>14</u>	29	<u>24</u>	<u>39</u>	<u>37</u>
2000	16	23	35	31	21	<u>27</u>
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	3	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	323	544	326	544
Av. reaction time. (Sigma)	1736	1920	2038	2750	2450	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*
Mf.	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
Ve.	880	674	1053	840
				Day 12
				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*
Mf.	854	599	961	750
La.	1345	961	1425	1012
Cl.	1190	1131	1553	1291
Mh.	1105	924	1087	1081
Sc.	974	756	1075	735*
Ba.	1849	1403	1549	1612*
Ke.	999	814	1045	892
				Day 12
				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.

Syll.	No.		Cl.		Li.		La.	
	A-V	V-A	A-V	V-A	A-V	V-A	V-A	A-V
1	1118	1273	1447	2103	870	1268	1422	1977
2	1233	1249	2273	2303	1229	1479	2096	2345
3	1527	1446*	2191	2128*	1214	1325	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 ADJECTIVES

<u>Selected</u>	<u>Rejected</u>	<u>Homonyms</u>
vain	grave	lithe
dear	whole	lewd
real	Dutch	sixth
mean	due	ten
coarse	eight	through
lean	fir	void
main	well	all
great	fleet	trim
vile	south	fit
wesk	hoarse	bound
cross	fourth	fifth
sole	male	sheer
past	flir	same
slight	four	bare
	more	fur
	five	down
		bare-bass
		chaste-chased
		plain-plane





TWO SYLLABLE ADJECTIVES

Selected

crabbed	nimble	needleless	motile	danner	only
rudic	alone	vulgar	stuffy	funny	treble
idle	william	piecemeal	aimless	noisy	hollow
juicy	equal	chubby	sunny	valiant	present
speechless	fleeing	undue	limber	morbid	steadfast
prudent	skillless	cautious	sonalid	lovely	ajar
vacant	shiny	skillless	shortly	contract	decent
grievous	precious	untrod	contribute	serene	sheepish
unripe	sightless	tidy	tender	correct	noxious
classic	* constant	brazen	gentle	downy	tenor
marble	dreamy	alive	tawny	giddy	selfish
crispy	handsome	wholesale	penal	shamefaced	enough
lilac	thoughtful	fitful	extreme	unfair	weary
tragic	dreary	milky	sandy	crazy	stagnant
inland	fiscal	alien	dreamless	harly	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	benesive	lukewarm	horry
hostile	wicked	aburn	bashful	allied	forlorn
callous	stubborn	lowly	acid	flashy	lengthy
vital	living	rampant	thorough	silly	flaccid
holly	dewy	tandem	stylish	tandry	dreadful
nasal	profane	natal	firstborn	central	astray
stolen	drastic	foremost	sacred	valid	starchy
rigid	spinal	downcast	fractions	starr	manly
mouldy	daring	lucky	fractional	drunken	unkind
daring	bushy	buoyant	stalwart	tacit	fussy
bushy	soulful	homeless	plafal	bulky	perverse



TWO SYLLABLE ADJECTIVES

Selected

lurid	concrete	racial	woolen	infirm
hopeful	gallant	oval	empty	foreign
lusty	psychic	demure	cracky	righteous
spatial	meager	woful	earnest	cloudy
waxy	dismal	blacid	inane	olive
sable	loving	active	wilful	knocknood
ardent	fearful	narrow	chady	horrid
senseless	sublime	total	noiseless	petty
faithful	precise	sweaty	scallily	sticky
private	right-hand	remote	timid	inbred
brilliant	russet	tasteful	rancid	homely
candid	dinky	mannish	crimson	lyric
hoggish	unseen	roughish	surple	creccent
breezy	lifelike	fickle	deaped	absurd
fatty	vicious	unique	swarthy	spoony
haggard	wanton	special	friendless	passive
lumpy	curly	uzly	scenic	naive
restless	elder	afloat	fishy	sterling
flinty	rusty	routine	transverse	husky
hazel	heartless	infirm	dummy	scaly
careless	risky	silly	spotted	muffy
artless	dusky	akin	fruitful	beevish
slightly	diverse	useful	earthen	civic
downward	elfin	doubtful	flighty	junior
arctic	radiant	shapely	eldest	cosmic
hellish	craven	frarant	costly	austere
winsome	rallid	romous	steady	crafty
comely	wayward	daily	moral	quecnly
stumpy	faultless	civil	sprightly	cubic
cunning	early	homespun	harmful	springy
awful				



TWO SYLLABLE ADJECTIVESSelected

glassy	urban	motley	saucy	solar	bagan
bony	sedate	witty	dizzy	monstrous	scurvy
indoor	chronic	irate	daughty	fluent	sanguine
bonny	unsung	absent	comic	evil	alto
mammoth	stocky	swirl	facial	courtly	easy
rural	transient	brandnew	shameful	untrue	immense
thoughtless	broken	grimy	holy	acute	minor
cozy	prior	adverse	current	pettish	martial
dainty	bridal	eric	merry	bovine	barren
luscious	maltese	oily			



TWO SYLLABLE ADJECTIVES

<u>Reflected</u>		<u>Homonyms.</u>
pregnant	chary	discrete-discreet
stable	very	nightly-knightly
naval	weekly	plural-plaural
dual	billions	
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	inconvenient	reverend	protective	dexterous	cumbersome
effusive	treacherous	eternal	vigilant	credulous	historic
different	vivacious	exclusive	critical	defeated	romantic
workable	restrictive	persistent	untutored	querile	romantic
suspicious	adjacent	ignorant	pennery	practical	suburban
curable	actual	internal	unreserved	especial	trivial
foolhardy	falsehood	mythical	attractive	conical	fictitious
pastoral	eloquent	retuliant	transparent	superfine	global
tolerant	eloquent	ready-made	conducive	impartial	moderate
diligent	edible	incarnate	remanent	indignant	versatile
plenteous	abhorrent	medium	fortunate	turbulent	phonetic
tropical	visible	terrible	merciful	conclusive	violent
vital	vincible	underhand	restrictive	unlucky	disdainful
reflective	suitable	assistant	hideous	serious	improper
outlandish	heavenward	undaunted	adhesive	translucent	inert
mineral	casual	noun-aimous	infamous	reculias	nearsighted
jubilant	militant	prosperous	explicit	irreious	opposite
unweary	rigorous	opportune	chaotic	primeval	fidgety
feasible	indirect	digestive	devious	revengeful	laconic
delicate	attendant	focal	subsequent	straggling	scurlous
credible	timorous	irregular	restless	underground	obvious
notable	good-natured	circular	tabular	definite	troublesome
liberal	decisive	subjective	vehement	observant	successive
informal	heroic	euphonic	powerful	auspicious	muscular
seafaring	electric	sublimant		overwrought	pathetic
furious					



THREE SYLLABLE ADJECTIVES

Selected

unstable  
immortal  
deceptive  
guttural  
athletic  
vindicative  
familiar  
obstinate  
imprudent  
nominal  
innocent  
outspoken  
deceitful  
plentiful  
hydraulic  
flexible  
gigantic  
manila  
irritable  
linear  
revengeous  
elective  
elderly  
bearable  
prodigious  
principal

insecure  
excessive  
incomplete  
prospective  
facetious  
distinctive  
diffident  
fasciful  
resultant  
ramshackle  
bedridden  
slippery  
arduous  
elegant  
exciting  
derisive  
irritant  
beauteous  
beforehand  
hypnotic  
comptent  
unwieldy  
nomilar  
counteous  
technical

semustered  
inhuman  
swirited  
uncertain  
unwritten  
fabulous-  
destructive  
revereht  
hickory  
concentric  
violent  
inclement  
amateur  
provincial  
persuasive  
amazing  
clerical  
incessant  
impassive  
ben'eous  
aggregate  
indiscreet  
ruralous  
rudential  
varorous

similar  
intricate  
genuine  
officious  
progressive  
confident  
cultural  
desperate  
adaptive  
abnormal  
precocious  
potential  
oldfashione  
indigent  
defective  
agnostic  
colorblind  
forgetful  
mannery  
logical  
cerulous  
menial  
primitive  
eruditive  
unstudied



THREE SYLLABLE ADJECTIVES

Rejected

marital  
congruous  
unaware  
pliable  
unable  
affluent  
expulsive  
cursory  
Italian  
liable  
soluble  
Paritan  
somnolent  
archaic  
ninetieth  
discrepant  
behindhand  
continent  
virtual  
pervious  
selfrigiduous

adherent  
protestant  
dysentetic  
iambic  
catholic  
impromptu  
insatiate  
elliptic  
emissive  
skeletal  
diurnal  
palpable  
lateral  
African  
multirle  
concordant  
descendant  
orthocominar  
amorous  
claudular  
ocular

twentieth  
probable  
discursive  
forensic  
visual  
filizree  
Pacific  
imrotent  
aquatic  
Egyptian  
monastic  
unmindful  
eightieth  
sensuous  
expansive  
capital  
lacrimose  
circumspect  
obsolete  
intestate  
every

cerual  
unwonted  
Japanese  
fortieth  
incurrub  
cleventh  
amorphous  
several  
liable  
powdery  
asctic  
Atlantic  
vascular  
premature  
serial  
transitive  
inflective  
asiniae  
indecent  
pragmatic  
lethargic

Homonyms

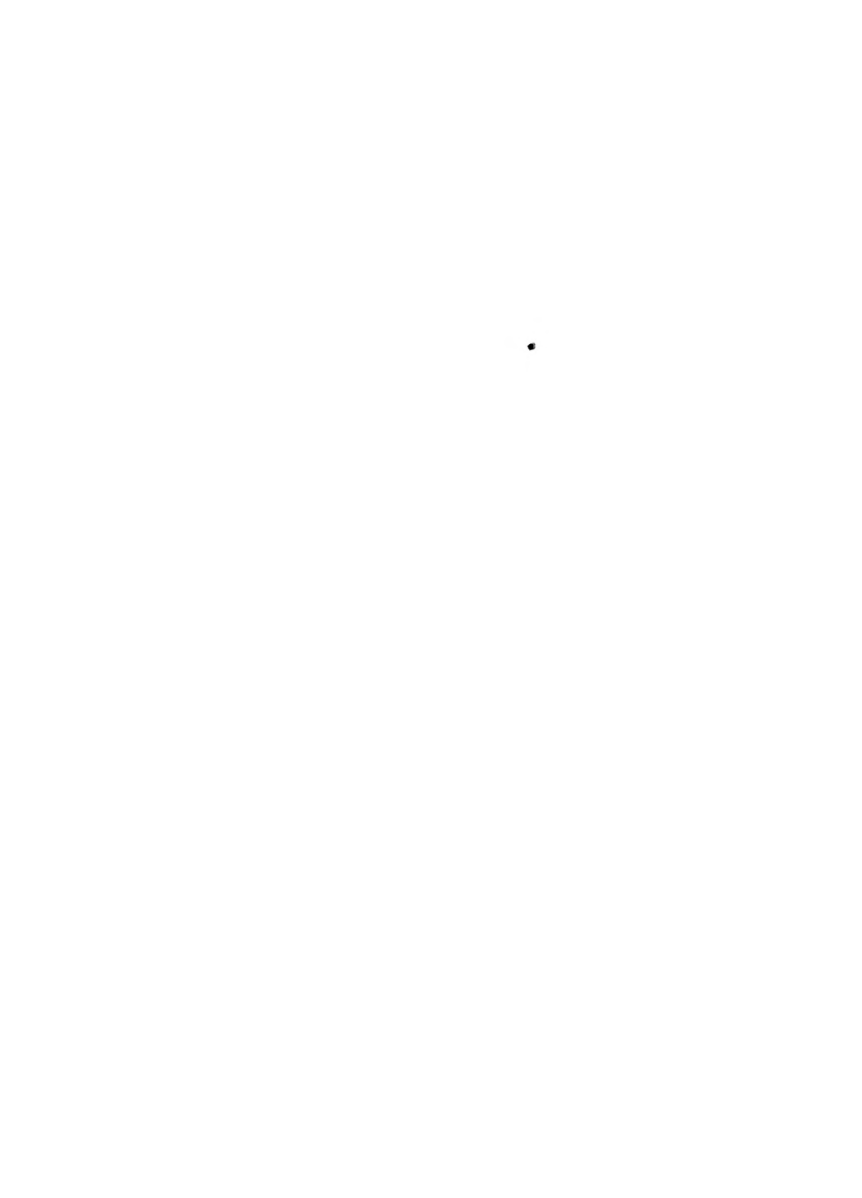
complaisant-complaiscent  
eminent-emanant  
littoral-littoral



ONE SYLLABLE NOUNS

Selected

psalm	shed	flue	dance	ledge	tart
walt	work	tree	scythe	deed	force
vest	mare	ape	bug	vat	lawn
stew	branch-	place	yank	cove	mind
whiff	stem	mob	nit	daub	swing
oath	hook	perch	tack	flail	toast
hook	chair	lore	shark	sweed	bloom
dress	news	shrew	brush	babe	fraud
fall	wail	scarf	hump	tights	dome
strip	quart	clock	wrist	peat	hull
greed	lint	treat	trout	spark	clown
chat	swine	crab	cab	cheer	list
wish	comb	bridge	scrub	boat	stall
arm	gray	youth	wall	mount	pipe
paste	blood	dope	praise	fear	coin
tiara	raff	corns	mint	range	shade
slay	floor	wheel	want	stretch	charge
film	mask	skee	strass	gulf	riff
thatch	cloth	worm	raw	chime	taint
hiss	shove	runt	piece	myth	slate
wile	door	plight	raz	juice	thigh
roast	strike	joint	stand	hug	blade
skein	shor	fence	boz	start	crush
sod	wheat	rock	kan	growth	bone
flute	awe	shears	raid	stone	dolt
soar	rod	boot	year	brute	pang
mause	drop	coast	silk	end	fluke
soul	match	flood	lid	lass	cliff
paw	limb	law	watch	fate	fold
cut	crook	chick	glue	hoot	nail





ONE SYLLABLE WORDSselected

square	libe	twin	bribe	sight
life	brace	clare	keel	clod
sheath	squeal	hearth	first	snail
cod	swan	prune	task	cause
mist	twine	plea	wance	word
stitch	stort	hean	chir	sledge
wrath	fleece	thrust	scot	axe
storm	hand	fat	kin	swig
braid	frill	cheese	seat	grange
thought	land	nest	musk	shoe
yawn	health	noose	lard	
steed	liv	lump	form	moon
raft	fudge	flame	twir	blot
world	drone	name	pinch	haunt
lounge	scowl	dusk	elm	recourge
pack	groom	scribe	stook	mat
garb	hinge	price	trail	net
smell	drain	whir	fleck	cat
whore	place	sheep	chalk	source
toes	death	dude	tuck	curl
sheaf	swell	lure	skin+	step
loan	string	rink	raz	hair
stage	fund	trench	hit	grape
gleam	toil	walk	page	smoke
truth	ease	sieve	smoke	priest
sleet	aim	crop	crop	sage
lull	salve	flare	flare	shoal
plow	flint	wart	wart	leak
knob	knife	trill	trill	leak
cramp	hitch	feed	feed	sphere



ONE SYLLABLE WORDS

Selected

croak	cot	fun	trust	oak	pin
God	ply	bore	moose	germ	squad
tint	por	groan	shrub	elk	thrash
ridge	shift	loin	nook	tie	shale
gash	raz	raz	scout	fold	zone
theme	crew	hem	ham	sour	camp
style	loom	mass	flow	rub	pole
march	train	troth	joy	cleft	kiss
orb	sleeve	sink	lane	shirt	dead
mit	string	quill	kilt	glove	brawl
straw	thread	look	noise	tune	chief
swarm	life	cake	run	sneak	snap
bluff	sack	sled	saint	chast	hate
vault	strine	rum	dog	blush	staff
flat	thing	cur	clamp	brand	tank
booth	throng	plan	block	ground	hedge
sem	sauce	mean	knack	cream	room
theft	shame	scint	lease	fix	stack
bronze	mind	weed	noon	road	job
scare	glance	bent	throne	hub	wake
thorn	fank	cast	cold	gas	brick
blow	tilt	dot	mole	broth	song
goal	fright	calm	grate	lark-	wit
fault	teeth	rose	nunch	clay	clip
slave	rig	time	bib	raz	help
goat	scalp	sourd	snake	rir	scheme
horn	fire	spring	cap	croup	hoe
code	slice	bush	helm	bag	den
pace	town	dart	wave	forth	mirth
boot	with	sweat	fume	cher	



ONE SYLLABLE WORDSSelected

snipe	frack	rate	rill	flash	kip
nun	thug	ash	blank	find	stuff
trade	sprint	frog	thief	snurt	wine
zoo	dean	rag	hen	rang	flaw
wine	clause	roque	brine	wress	sort
beam	seal	womp	cult	charm	pluck
fog	grief	wretch	act	craft	moor
bat	smudge	chart	rip	shame	height
row	bass	drift	hush	fly	wench
stroll	field	law	lack	blank	chick
moth	stick	dose	faunt	booze	fern
dwarf	queen	trib	strife	choice	alms
bread	craft	jay	thumb	dad	curl
snip	brow	keg	dice	knave	scorn
dawn	lion	gorge	crutch	lamb	folk
brune	lick	broom	mitt	coal	rowl
sphinx	shield	shroud	harp	scum	quest
sale	chance	loot	spicen	lunch	crow
flask	shin	hunt	mouse	stom	snag
mate	mess	bunch	frown	ery	strength
fiend	dish	heat	groun	ery	ghost
stoop	sound	draft	birch	breed	mesh
hurt	axe	strife	child	sketch	crib
stealth	tin	mush	suit	jaw	crab
bay	kid	crank	lout	lore	kink
need	rust	leash	stain	rail	shaft
feast	dirt	duck	swear	ram	use
chasm	vain	shelf	bid	wool	spruce
sleigh	friend	plug	mus	breeze	sty
pad	sand		cup	plush	love
				bowl	file



ONE SYLLABLE NOUNS

Selected

jug	globe	torch	tramp	quirk	bulb
rhyme	blast	whale	disk	squall	filth
talk	card	snail	sake	dame	freight
herb	jar	streak	chain	ire	trunk
kloom	bait	lance	walf	flush	prow
rouge	tap	pulse	valve	frame	deck
fight	hive	trough	fix	turf	wad
lace	dove	spoon	lash	dread	text
chess	face	swool	stream	fork	crust
lobe	dirre	doubt	oil	prop	ruse
chance	vague	roach	swain	ride	egg
smile	kite	glee	sock	boom	zest
cube	vase	feb	cash	bab	hire
swirl	glow	wreath	link	truck	bet
floss	nest	ward	ditch	shriek	fuse
mood	stump	wood	ice	cart	flax
prince	soil	hour	quince	head	malt
stunt	bond	scab	rass	dress	twitch
tag	swamp	slime	force	nerve	lance
slip	end	king	claw	wand	jet
pie	valm	pouch	rout	street	zeus
cook	chill	hum	foe	wound	foot
bench	beard	snow	card	thud	hide
yard	march	cone	thirst	vlaint	lilt
klimpse	stave	snake	robe	strand	boak
drawl	space	haze	perk	pitch	call
dale	wix	swab	gift	curb	part
chip	note	wedge	nymph	rump	dress
wage	luck	rush	plant	dunce	hold
	wolf	eel	snoll	lair	case





ONE SYLLABLE WORDSSelected

pod	prayer	flock	hint	hue	throat
elf	nose	wren	sausage	swine	rust
cough	whack	murr	hoof	hush	fake
vote	dash	quack	crime	churn	spruce
vow	bruise	flight	crank	church	rib
gill	dell	drum	beat	cloud	brood
host	duke	duke	guess	cup	dent
loss	sham	sham	flask	foist	latch
hod	toy	toy	spice	pride	skill
harm	ten	brook	skill	harm	edge
trap	claim	hack	hog	chair	mouse
cruise	four	hack	stub	sword	goose
web	bin	prize	whip	bulb	mink
wash	fool	jer	shave	notch	meal
wish	rib	doom	term	bath	gate
earth	ebb	flap	bounce	glass	hoax
spray	con	game	fruit	buzz	grove
coil	quilt	farm	soot	fox	cuff
blouse	rads	view	todd	sleep	lurch
tape	rum	smirk	sweep	ear	push
court	crane	swoon	tip	rim	tax
farce	day	crone	patch	drive	imp
brat	cruse	milk	prig	quail	flag
berge	strap	sheet	grave	none	rop
bur	weach	sprout	taste	chase	score
lodge	bride	grove	sin	yellow	slat
wire	swite	third	moss	break	cock
wealth	noon	mould	trait	flirt	box
flake	shock	star	chest	wind	box
tweed	hunch	nike	dray	bomb	felt



ONE SYLLABLE NOUNSSelected

rage	coo	loom	trace	wharf	death
knock	worm	limp	sown	cash	roast
dip	hound	music	ooze	ridge	bolt
coat	debt	find	speed	heel	phase
ray	sect	probe	lens	cost	knoll
art	reed	cave	loaf	stop	tire
maid	urn	hut	bee	rack	peck
wrench	needs	bear	bay	faith	drag
hymn	jar	pose	rick	skate	chink
fit	horse	team	vort	scroll	ant
lead	switch	tract	eye	herd	way
whelp	bard	perch	coach	rind	saw
lab	flea	crag	banz	nose	lime
zeal	toll	wick	cross	grade	seam
count	fast	paid	grate	beep	scale
reel	grass	stay	gall	sea	loft
ant	ode	size	board	neigh	pelt
fec	crub	gore	check	slit	tide
blue	ale	reef	dev	runr	miss
hog	inn	dun	flat	walk	side
mark	past	troop	course	state	race
rule	plot	vast	steel	shout	mine
rust	wore	gull	pine	date	mode
dab	eve	nap	scene	boil	peak



ONE SYLLABLE NOUNS

Rejected

scrap	felt	month	lick	creed	drain
grace	trend	string	swill	plaid	fief
still	warr	lent	suck	criek	stench
horn		drain	east	burn	dun
rote	ass	sworn	last	jade	cant
kolp	boke	frieze	bound	flux	arms
round	ewe	ruff	fit	drear	runk
jade	Dane	horn	eight	prey	lien
May	eighth	ball	trash	nigh	jack
piece	Jew	welsh	stir	husk	type
square	drabe	flame	three	width	third
north	bile	res	cock	ball	trash
womb	welsh	stir	ding	Christ	north
pimp	four	stir	third	fourth	fifth
sixth	ninth	stir			



ONE SYLLABLE ICONSHomonyms.

whole-hole	feat-feet	doe-dough	feet-feet	vane-vein
isle-aisle	tare-tear	slight-slight	fir-fur	core-corps
sole-soul	stake-steak	dear-dear	near-pair	sale-sail
pall-paul	base-bass	tier-tear	hare-hair	peel-peal
plain-plane	fare-fair	two-toe	vice-vice	mane-main
kneel-Nell	maize-maze	plait-plate	son-sun	rice-rise
roe-row	chute-shoot	writ-wright	tea-tee	dye-die
flour-flower	break-brake	mill-mill	mane-rain	ore-oar
all-saw	jam-jamb	beech-beach	halm-bomb	bale-bail
cue-queue	stake-steak	mane-rain	vale-veil	hart-heart
hoop-whoop	senfo-cento	naught-knot	hair-air	pale-pail
boor-Boer	nun-none	tail-tale	ware-wear	lead-lode
mirr-minks	hoard-horde	helle-hell	yolk-yoke	buoy-boy
peal-veal	grin-grinne	sun-some	knith- <sup>th</sup> -night	phlox-flock
piece-peace	base-bass	waist-waste	henth-birth	throc-throw
lyre-liar	cord-chord	serge-surge	hall-haul	wait-weight
knave-nave	male-mail	mote-mot	tail-tale	beer-bier
wrap-rap	fate-fete	bow-beau	lynx-links	galt-gilt
rite-right	root-right	root-route	route-root	nob-knob
stare-stair	lie-lye	reign-rain-rein	beet-beat	ark-arc
meet-meet	grease-greese	scout-scent	creak-creak	dazo-days
style-stile	sight-site	faun-fawn	mien-mean	surt-serf
mean-mien	choir-quire	peer-pier	late-loot.	





THE SYLLABLE NOUIS

Selected

alley	arpen	bottle	mamma	refuse	balsam
countess	cedar	navy	butter	rumage	danger
napkin	leader	feature	snowflaw	rebble	struggle
compass	bedot	suet	whetstone	traitor	flapjack
filling	beadit	farminr	sofa	distrust	chowder
lampblack	rodent	junior	croquette	slander	agent
auction	adult	baseman	amass	netting	salad
upstart	muslin	focus	willow	diet	pretense
goblin	hostess	bedding	bluebeard	falsehood	dentist
rascal	notion	mustache	tailor	gravy	sacket
prelate	suction	parley	fillet	excertt	favor
pestle	monster	fluid	reman	ocean	pebble
dragon	bullfrog	coosul	mimic	marchant	herald
binding	tunic	radish	barire	snowshoe	bunny
freedom	archive	convent	bulthead	searchlight	cradle
verdict	stamnade	vestry	laughter	football	poppy
accent	rafter	color	expense	casert	seaweed
trestle	bergain	nugget	texture	session	repast
darkness	vampire	satire	foolscape	raven	chamois
earring	rotast	irrvint	mania	offshoot	onrush
pocket	token	lion	bouquet	fixture	budget
demon	crystal	amount	target	desert	shortcake
dancel	steamship	middle	outing	content	record
distaste	butcher	wool	paran	carriage	courage
shutter	content	kehest	quicksand	redwood	armful
rosebud	damask	liner	laundry	forfeit	sugar
asphalt	kitten	ermine	woodland	busy	reply
seaboard	icing	refrain	senior	kingsman	retal
survey	army	deluge	doctrine	command	wolfdog
parcel	outburst	soldiers	bonfire	mansion	soldfish



TWO SYLLABLE NOUNS

Selected

ditty	safety	beckest	cretonne	flicker	ouagmire
freightage	whisker	burden	rumorse	locket	warble
trattile	quinine	digit	loser	tattoo	murder
fiction	contest	action	terror	riotform	scandal
dumpling	repose	eyelash	haifer	veto	resonance
spirit	weaver	clothing	bedstead	triod	fowler
silence	highness	crickle	lining	sunbeam	fragrance
goldsmith	ether	ballad	saloon	woodwork	sculpture
intrigue	lobby	wonder	chisel	trousers	billiards
pongee	debtor	estate	balance	tennis	burglar
cruet	domain	approach	steerle	county	vaffle
highway	anthem	soldier	vener	pickle	tigress
maggot	inmate	footman	climate	hugot	raccoon
revenge	partry	standard	hoarhound	picture	needle
upland	fencing	hammer	racket	muscle	blockade
savage	luster	hammer	convert	scissors	country
rosewood	disgrace	gender	swindle	warrior	kettle
outlay	kodak	horseage	score	swarrow	pattern
scrimmage	zevser	horsuette	barrack-	shackle	relief
husband	swmand	baron	dresmer	trouble	fabric
jockey	tower	buckle	yuletibe	druid	wicket
circuit	pericu	pastel	heather	tweezers	farthing
troatise	murmur	channel	enoch	promise	scuttle
glowworm	casket	debate	fosy	stubble	city
zephyr	grocer	hurdle	brigand	vista	casual
croccing	drama	blessing	vengeance	subway	barcau
stranger	victual	perfume	cornet	stocking	whinner
schooler	zander	treble	demand	handglass	feather
hawthorn	ungrowth	entry	abstract	mother	culprit
regret	flagon	portent	sickle	pudding	necktie



TWO SYLLABLE NOUNSSelected

workshop	beckage	ballot	labor	cluster	dagger
scoundrel	weakness	tally	statesman	substance	postman
negro	terrace	hegger	nozzle	funnel	sailor
heaven	vestive	scullion	derby	thesis	lover
hodie	flytrap	vision	honey	trumpet	dinner
knocker	candy	effort	strawfs	cynic	strychnine
lettuce	maker	hosehead	eagle	vellet	messmate
seedling	handspring	preserve	inster	veril	mustard
fighting	refuse	station	horex	success	barber
critic	tevern	roundhouse	working	primate	charcoal
fortune	butler	laymen	hustle	excuse	bugbear
archer	rarsed	annals	zenith	canpor	banjo
bounty	crawfish	deacon	curtain	ransom	squadron
canyon	florist	solace	charger	bully	keyboard
result	justice	earthwork	bullet	footstep	woodwork
outlook	signet	tinker	derot	morrhine	handbox
asreot	fagot	ransion	wanther	rebel	hissing
island	minstrel	outbreak	fender	ronlar	tablet
detail	homerun	reader	scuirrel	heartache	stipend
blacking	matter	novel	dealer	edict	bison
organ	flourish	packet	dial	terror	hardship
beaker	decoy	union	tether	foothold	curfew
missive	number	research	kaifer	racer	vineyard
contact	orchid	heathen	cable	freshet	servant
liver	charmer	disease	ramrart	freckle	inning
forethought	mohair	beaker	nutshell	hangman	bamboo
akir	wordbox	greyhound	tension	zossir	legging
flagstone	horseshin	untruth	brunetta	resette	mason
caper	forum	handcuff	vizor	raCTOR	basin
panel	gingham	worker	retreat	cable	concrete



TWO SYLLABLE NOUNSSelected

transport	statute	centaean	trifle	raisin	caress
nigger	trinket	salesman	crayfish	excess	becan
frenzy	trandoor	tendon	abbot	utter	comet
unction	satchel	nygmy	rubber	twilight	aster
service	brandy	office	wagon	drinker	tabby
transit	slamour	doublet	adult	salmon	increase
vigor	wrangle	microbe	cruller	spanndthrif	bandruff
uncle	cactus	beefsteak	vesser	vienlant	rebate
highroad	onyx	bankard	banknote	atom	drawback
angel	tallow	bench	urchin	vortage	female
rawine	marchant	sunrite	carret	homer	satcen
ague	liquor	chestnut	football	plumber	garbage
mischiev	distress	vermin	hobnail	alcove	nonsense
ticket	snowfall	retort	comfort	paril	finish
puzzle	keyhole	locksmith	exchange	course	saddle
granule	engine	lackey	carbon	ambush	myrtle
sable	reading	fisher	shampoo	rhubarb	language
halimoon	scanner	beuble	loest	vaccinet	tattler
tanner	baton	classmate	impress	snowflake	bidding
lawyer	handwork	study	gosing	valise	navil
stretcher	tumult	ulster	fossil	whistle	suspense
reptile	Satan	hemlock	gractier	design	centus
trapper	stomach	verror	emblem	carbric	staror
dastard	maerschbaum	clatten	larva	eyelid	draftsman
frontier	odor	carriage	steamr	battng	abcess
tunnel	express	cadet	bristle	blunder	purser
circle	parmaid	sickness	union	attempt	holder
kinship	carlic	cider	hairloom	scaffold	dragon
consent	forest	planter	parrie	coffee	ballast
miser	habit	version	tadpole	exumtion	promise





TWO SYLLABLE SOUNDS

Selected

alarm	cherish	curry	darling	fizzle	spectre
kushroom	elbow	advise	drainage	hero	flutter
pastime	artist	question	chimney	legend	flounder
hoarfrost	schedule	flavor	disdain	in-lining	medal
magic	advance	blizzard	knarsack	redbreast	peevish
beaver	vapor	cardinal	nation	banter	awning
mainland	towel	beetle	combat	hornet	income
parent	steerage	banquet	sequel	pleasure	mercy
attack	flavor	method	diven	pasture	sponsor
linen	sample	fishwife	village	whiskey	snailax
revolt	revolt	numeral	expense	tattooing	hardware
ticker	temple	fortnight	Bible	defeat	usage
marvel	cornice	letter	hotel	empire	chorus
contract	basket	highland	framework	sinew	redress
nutter	knicker	dresser	batter	tricker	progress
trophy	rivet	master	postage	photo	discharge
meter	dryad	coquette	affair	scouter	firmness
garland	banner	cooler	torrent	spacier	money
cartoon	excuse	bridesmaid	suburb	drawier	section
treasure	distrust	cyclone	forenoon	practise	brindle
sally	program	nettle	amber	cupid	fury
iris	shanty	belief	model	novice	for'night
riggle	angle	rider	cherry	loosier	crisis
sister	remark	coupler	battle	stocking	handbill
gallon	reserve	villa	prospect	almond	springtide
sheeting	wallet	reproof	swanlike	gorse	surface
worsted	berry	stockade	velvet	eking	reflock
career	dahlia	rilliam	rumor	brother	dirige
noodle	skillet	abuse	pretext	brother	thicket
bunting	mortgage	fernoon	instinct	extract	insult



THE SYLLABLE HOUSE

Selected

layer	campus	talent	heron	issue	cooky
brakeman	compound	riffell	conceit	skuttoo	druffist
lizzard	pongon	rowar	sucker	ramahlet	blemish
limit	mestiff	sunshade	eyetooth	rival	eday
defense	carcass	chill	wickfork	glamer	larynx
problem	eyetore	array	cutlass	pigeon	masking
woodbine	regard	kanter	riddle	winner	iron
creeper	attire	logic	power	adage	encore
torsion	roker	spelling	blossom	rally	status
friendshir	learning	chittling	loophole	dunseon	flynet
legion	captain	disproof	hireling	shoulder	balloon
lifetime	cricket	duster	flintlock	loveknot	mongrel
germane	enclave	ruler	clamor	turnoil	dory
woolif	sharrock	musket	squable	lava	duckling
welfare	shrinkage	tirade	breaker	abbey	message
leopard	ulcer	armor	serath	viper	blackmail
motor	dollar	misher	story	awing	keeper
cleaver	rainhood	foraprom	cowing	shutter	cleaver
relance	empress	pillon	restrain	flywheel	produce
father	lattice	centure	image	scange	saure
hydrant	credit	coater	asthead	oral	banquet
abess	besin	kinfolk	rhassant	judgment	lily
streamlet	coloraire	sculptor	onslaught	tissue	linden
turen	foundry	drinning	nony	police	actress
threshold	vassal	easel	glacier	railman	brocade
wayside	trellis	minnow	tribute	echo	hammock
sausage	valley	fancy	whinnig	stature	cuckoo
ringlet	erounet	barrel	stature	accord	porcelain
waxgrobe	rauc	preface	accord	dolly	classic
turnstile	fiddler	octave	dolly	grammar	



TWO SYLLABLE NOUNS

Selected

mammal	printing	outcry	cutter	valley	mortar
patience	decease	challenge	thistle	quarry	pancake
tariff	ration	quarter	comrade	label	nickle
crest	inlet	surprise	fritter	earthquake	review
orange	halfbreed	curbstone	frustrate	rudder	sirup
tulip	spider	friar	hourglass	sunlight	cover
cleavage	agate	tyrroid	victim	donkey	rocker
printer	flannel	turret	gridstone	province	ducat
colleage	sandal	pollen	maxim	student	turban
catarrh	earthworm	prologue	quartet	hatred	matting
scabegeat	vestment	lady	market	arrest	device
cuthroat	envoy	billow	carrol	heirress	shingle
pepper	shower	folklore	taffy	farlough	machine
arrow	recluse	pauper	mallet	region	decease
copy	titter	antic	brightness	sunburn	homage
bacon	couron	ballet	owner	billy	fluting
pirate	carrot	rosin	hangnail	tackle	trimming
figment	window	childhood	delta	fountain	district
patient	concert	bevy	settle	secret	radane
omen	umfire	chuckle	anneal	prison	ledger
compress	weakling	scuffle	penny	couplet	error
midget	brethren	blotter	system	chapel	exort
cohort	landmark	fracture	cranny	eyesight	bias
repute	treaty	hunchback	custon	cannon	award
hovel	lilac	saucer	benzine	bushel	hummock
flurry	twinkle	horseman	doctor	trolley	sexton
sunspot	learer	mileage	derrick	griddle	larder
casement	burlesque	typhoon	acre	allswice	memoir
garland	mission	sheriff	navy	snowfull	custard
warbler	axle	structure	football	maiden	powter



TWO SYLLABLE NOUNSSelected

ginger	canine	product	shilling	misdoed
sherbet	kitchen	finger	escort	dipper
mattress	transfer	foible	leather	crayon
wager	humor	duty	palace	damage
payment	keynote	proceeds	sovereign	reproach
furnace	warning	council	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	strolch	ranter
room	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	subbur	barley
dwelling	vowel	basement	lemon	pumpkin
alloy	earnings	holly	mantle	voltage
porridge	party	rocket	athlete	partridge
windup	vision	boulder	dressing	apex
kitty	vessel	factor	neglect	beauty
isthmus	powder	mouthful	globule	placard
asthma	medley	vicar	ankle	cashier
beacon	duet	snowed	fibril	apple
huntsman	cravat	carriage	forehead	pucker
humpback	torture	instance	shovel	ointment
tofu	rebuff	swindle	locker	parrot
gullard	ruffle	finding	chimpank	





TWO SYLLABLE HOURS

Selected

turquoise	vesture	cunning	blacksmith	blackbird	incline
impulse	garret	project	errand	polish	inflow
ideal	rancor	pistol	woodcut	farmer	roller
sorrow	rattle	quadrille	wining	flaming	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	mathos	comment	dammer	warfare
sewer	picnic	surname	meadow	bishop	venom
surgeon	footing	civics	toner	tyrant	business
rainbow	humbag	cabbage	outflow	planet	victor
handful	carpo	giant	valor	woodcock	victor
zebra	castle	lecture	complaint	lightning	swindler
fashion	brier	cashmere	starle	olive	palsy
graphite	shadow	orchard	sinner	reprise	sheepskin
crater	notice	present	dairy	stallion	peasant
grandeur	shortland	report	baroque	foldier	baker
nostril	rasy	likeness	senate	tinsel	husking
recruit	posy	ceiling	devil	hammer-	mitten
suitor	fiber	crimson	delight	crier	papa
commerce	fortress	concourse	rastrol	monarch	paper
woodman	linnaist	arcade	wafer	winter	sewage
chapter	parsnip	safter	patron	vintage	gruel
wrangler	whisrer	rity	landslide	river	setter
infant	fuel	cigar	pavement	pitcher	annex
tactics	motto	pressure	limestone	cobweb	parade
cushion	stencil	filly	mascot	shelter	cinder
native	browne	eyeglass	gotage	chieftain	impact
fighter	slinner	canal	context		



TWO SYLLABLE NOUNS

Selected

rhythm	shipwreck	mix	funus	turnip
poser	onion	debauch	censure	treatment
failure	hazard	vinegars	lobster	cloister
profile	dandy	heranzue	album	figure
quote	nephew	defect	dernair	lacrosse
desire	yeoman	parting	album	thimble
venture	herbage	rocket	honor	rafting
frolic	quiver	freighter	besoatch	costume
middy	network	pronoun	alder	noctar
jersey	idler	alrret	cane	resort
schottische	buzzard	hunter	muskrat	skullcap
famine	rummet	password	Christmas	bulldog
moral	symptom	viston	robber	sergeant
ruffian	fairness	carbours	ratter	handle
crocus	manle	rifle	science	rotto
foresarm	citron	offer	eyeball	canter
nautice	building	crossness	altar	heater
orge	bedlam	desfante	palrit	mattook
cement	distance	actor	forecast	hermit
nallet	proress	trombone	cardboard	portal
snowdron	anser	witness	bolster	candor
cocoe	tenant	porter	peasion	address
hustress	conrel	cooper	lacre	rowdy
workman	contrast	mirror	jewel	influx
babble	jaundice	warehouse	craving	message
cartidge	birot	discord	fever	checker
cartive	seamstress	measure	varish	fervor
reform	pronoise	music	crusade	seizure
hiding	foreman	series	minion	tiger
menial	throttle	mis-trust	surer	tumbler
prior	bride	turkey	stable	planter



TWO SYLLABLE WORDSRejected

tangle	eyeswash	chaos	roundup	vantage	hyphen
dropsy	potion	effray	seashore	vaccine	sinker
respite	angler	wigwag	instant	Thursday	wrinkle
kindred	corkscrew	flyleaf	riding	Sanskrit	verdure
Talmud	dachshund	Monday	trojans	drivel	ontion
treason	salvage	foretaste	neuter	fruitage	lowmess
baptism	debut	foundling	finesse	mannan	avall
guidance	fifteen	Sunday	cortex	Roman	keystone
manhole	monkey	marine	precent	receipt	pulley
Venus	lowland	rerrint	polo	merit	insot
rickets	dingle	center	virtue	elder	cycle
bullion	marriage	Cuban	toddy	curate	putty
harvest	Arab	unit	triolet	Zion	Indies
complex	goldfinch	tenor	dais	Mormon	Morseman
grievance	polka	fristborn	tantrum	distaff	marksman
quintet	hoosier	outbourse	hanger	belliff	belliff
flotsam	quadrant	subinthe	lobber	thirteen	furor
invoice	filtrate	adam	impost	cycling	lovebird
bined	thyroid	swivel	bonfire	lacquer	concert
countier	standpoint	assault	Hebrew	Hades	disuse
northeast	envy	patchwork	redskin	flinner	July
talon	vanguard	terran	furrow	elite	Chinese
malice	fixing	laurel	woodcraft	fatigue	hamlet
curry	cribbage	forelock	hybrid	climax	marrow
rocket	farious	Afghan	Essex	debris	Yankee
walnut	northwest	bubble	neuron	seedtime	durus
coasar	ferment	frontage	lasso	Allah	Bartist
thirty	many	hundred	surfeit	potash	duchy
stoppage	waintiff	hollows	Hindu	rabus	fetich
suffrage	whitewash	eighteenth	billage	eddy	barrow



TWO SYLLABLE NOUNS

Rejected

twenty	Friday	campaign	bracket	lightness	viscount
satyr	rain	euchre	proxy	island	ellipse
sennce	rasty	constraint	stadrine	placket	Tory
stucco	faria	demise	notter	fittin	Russia
adieu	prestige	falcon	percort	tatter	shaker
floatage	madam	cube	Creole	Men	congress
schism	esthete	eyeshot	Baldie	berouche	esmark
rupture	connect	quickness	Gull	slave-trade	backhead
sentry	horscotch	etude	nortner	million	whiting
redness	roster	titan	roulette	hardness	Latin
Caesar	Wednesday	boson	infield	verlet	Tartar
suspect	recourse	critique	pussy	ethies	Norman
duration	oblong	bivalve	warrant	function	surcease
seizure	china	chamber	flatworm	trader	bladder
figure	lying	quadroom	batter	mayor	corset





TWO SYLLABLE NOUNS

Homonyms

fairy-ferry	manor-manner	idol-idyl
cellar-seller	symbol-cymbal	current-current
asset-ascet	viol-viol	Briton-Britain
liar-lyre	profit-prophet	magnet-magnate
brilliance-brilliant's	missile-missal	flower-flour
counsel-council	metal-mettle	morning-morning
minor-miner	seaman-semen	desert-desert
galate-galate	coral-choral	penance-penance
burro-burrow-borough	surplice-surplus	canvas-canvas
border-boarder	travel-travail	instance-instance



THREE SYLLABLE NOUNS

Selected

scalingwax	tenderloin	portmanteau	gooseberry	privilege	contortion
mafliner	corruption	undertow	aridiron	recompense	pompador
dissension	omnibus	thoroughfare	satidote	sepalchre	ivory
numeral	theory	bankruptcy	cavalier	amethyst	terminal
hurricane	influence	envelope	auctioneer	caffodil	condenser
stimulus	madonna	appearance	extortion	concession	gradation
vacuum	latitude	fellowship	platinum	bravery	organist
overcoat	completion	allotment	zorefibrer	banana	lookeron
tragedy	projection	adamant	minister	digression	violet
overflow	prombitude	heresy	adherent	carocit	sarrison
reprobate	cigarette	minstrelsy	precedent	armory	appendix
janitor	volcano	accuser	provender	battalion	mulberry
directness	anarchist	burial	passenger	ringleader	mockingbird
vagabond	general	sacrilege	creditor	seasoning	personase
ordinance	quietus	synagogue	honeycomb	abrasion	workwoman
discussion	ebony	viracy	monument	viaduct	umbrella
dimity	duration	terminus	remission	abode	telegram
insertion	attorney	remainder	workfellow	behavior	contrition
valentine	abusement	omegalet	eiderfellow	nutriment	anthracite
manslaughter	appetite	registrar	mosquito	revolver	misfortune
imbecile	manuscript	surveillance	baseton	reservoir	incentive
alchemist	castaway	tyranny	heroism	subsistence	handicraft
granary	enigma	artory	meteor	confection	creation
specimen	departure	hystories	constable	episode	diagram
mercury	batter	impostor	engineer	mechanic	aperture
barkeeper	goldenrod	confessor	deference	discipline	taxation
harmon	injection	profession	resistance	embryo	redemption
triangle	heretic	fiddlestick	larant	magician	analyct
pendulum	rendition	affliction	nutmineer	marmalade	exercise
			immersion	clarinet	guilloxine



THREE SYLLABLE NOUNS

Selected

camera	artifice	dynamite	plantation	marigold	narrative
follower	anteroom	paradox	bluestocking	ascension	demagogue
faculty	rugulist	occasion	postoffice	refallion	sympathy
livelihood	selfest	scarcity	engraver	successor	edifice
rosewater	selfesteem	alumni	importance	universe	quarantine
unison	strawberry	settlement	procuring	infidel	oversight
democrat	sarifice	dictator	instrument	antelope	elixir
inference	anarchy	perfidy	concession	quadrangle	kangaroo
instruction	alrightment	eulogist	allusion	indolence	butchery
stowaway	profession	mania	detection	adherence	epistle
deorum	buffalo	rottery	mackerel	notary	certainly
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	coccanut	baluster	prodigal	reprisal
livery	indigo	chastisement	arrangement	maniac	theorem
pretension	dialogue	integer	conjunction	deserter	larceny
assumption	extinction	annoyance	chandelier	memory	prospectus
landowner	disposal	diffidence	macaroon	landlady	neighborhood
esthetics	devotion	obstacle	evidence	gardener	pavilion
ficelle	lemonade	toogery	monitor	contrivance	troubadour
expressman	bookseller	gunpowder	commandment	boundary	encampment
sohomore	cobblestone	contraction	butterfly	cracker	calico
meadowlark	laborer	attachment	inquiry	hyacinth	batchelor
columnine	comedy	finale	nunnery	repentance	counterrat
equipment	sunrlicat	drudgery	odium	chloroform	insolence
amendment-	liberty	reviewer	excursion	anecdote	vestibule
avarice	chivalry	pyramid	director	attendant	



THREE SYLLABLE NOUNS

Selected

fortitude	chariot	injury	maneuver	amazon	policeman
pedestal	infunction	refusee	density	believer	rehearsal
serenade	chafindish	labyrinth	ambulance	asylum	autocrat
improvement	restaurant	randraver	armission	arbutus	midsummer
restriction	decadence	invective	undertone	brigadier	clergyman
leadership	witchhazel	vanacy	cranberry	reflector	arrogance
telephone	elation	dominion	hardhood	gunnery	citizen
masquerade	altitude	ruscison	promotion	valisade	discomfort
decanter	revival	consequence	monograph	attribute	terrarin
revulsion	butterery	barytone	massacre	amateur	confusion
proposal	acquaintance	hospital	denial	champion	afternoon
gentleman	arrival	certilage	hermitage	evening	presumptio
disorder	gondola	intantion	compulsio	possession	company
protege	airness	flycatcher	compulsion	guarantee	inertia
destruction	countersign	implement	sympara	palamar	tablespoon
industry	ritual	equity	ornament	candidate	obairance
depression	jubilee	assignment	evansong	evacator	obairance
embargo	quantity	infancy	discernment	evasion	procollion
glycerine	atmosphere	editor	governor	procedure	cornerstone
register	counterpane	diadem	nucilage	exhaustion	persuasion
forester	hominny	chiffonier	spresso	sorrano	explicative
providence	daredevil	riannacle	linear	enraving	vanison
apricot	elephant	objection	wilderness	monogram	expression
prophesy	raunch	armament	compliance	profession	currency
deduction	lullaby	obresion	gratitude	rotato	fanatic
portico	horse-radish	innocence	riarist	factor	cruelty
aroma	edition	idea	cataract	transaction	citadel
turnover	infection	profusion	dilemma	comadore	tentacle
summary	revelry	communion	loneshoreman	reverance	andiron
cholera	litsny	habitant	woranship	diary	parody





THREE SYLLABLE NOUNS

Selected

emulsion	algebra	department	alchemy	usury	pinafore
impudence	carrier	visifance	albino	melody	courtesy
dependence	scenery	tapstry	maszine	cookery	admittance
piano	duplicate	interview	concensus	mendicant	customer
jealousy	tuition	pleasantry	interment	disrepute	musician
eruption	bulletin	windiness	comocure	elobement	bumblebee
readiness	morocco	invalid	oculist	exemption	assembly
veranda	needlework	celery	rickrocket	frailty	phonograph
destiny	reliance	conviction	adviser	stringency	chaperon
banister	buttermilk	deficit	rsillery	deputy	complexion
patrician	onossum	donation	obalisk	density	reaction
rarrimand	searchwarrant	cameo	autograph	lubricant	infantry
eulogy	avostile	credentisl	fishery	catscomb	virago
disregard	importer	drabery	rurity	condition	bookkeeper
pedagogue	remedy	vacancy	effusion	furniture	honeymoon
miserly	diamond	essential	captata	stockholder	mocassin
concealment	amusement	prescription	conference	scotist	parasol
distemper	radius	corridor	minuet	quadruped	argument
bicycle	alcohol	raymaster	carival	abdomen	firmament
curvature	elegy	illusion	ashetos	crucifix	document
satirist	paraffin	varshle	officer	bartender	ancestor
comradeship	vetition	omission	corwright	wistletoe	endowment
katydid	emphasis	gasoline	belican	endurance	descriptio
carnation	ablution	prodiery	royalty	miracle	conduction
dictation	armistice	disruption	synonym	impetus	adoption
diaphragm	medicine	calendar	deity	hystander	taffeta
average	adjustment	ministry	derision	hesticrion	hemorrhage
diplomat	luxury	alfalfa	succotash	estimate	diploma
galantry	eskimo	arousal	brassale	defiance	foolscap
cyadicate	vatican	approval	learcy	trachea	companion



THREE SYLLABLE NOUNS

Selected

photograph	barbecue	violence	alumnus	cavalry	opera
tournament	chanticleer	vermillion	avenger	demeanor	contractor
assassin	revulsion	predicate	collector	delusion	infamy
likelihood	crinoline	unbelief	commission	anclworm	handwriting
assurance	scientist	catalogue	procellor	commotion	patriot
exception	opponent	mastery	charity	holiday	combustion
suggestion	employer	dowager	convention	raspberry	tobacco
parasite	affection	jasper	fisherman	distinction	overskirt
abandon	cornulence	torcullis	addition	commander	aversion
corporeal	resident	appliance	ovation	confession	observance
machinist	rantaloon	heroine	divider	artisan	competence
shortcoming	partition	century	character	vanity	pioneer
multitude	reflection	correction	auditor	convenience	lieutenant
quality	policy	civilian	penitence	consumption	convulsion
protector	enactment	library	distinction	bakery	rhapsody
amplitude	flattery	cylinder	resatta	bandanna	interval
pharmacy	apathy	orium	disarray	nucleus	elegance
dialect	homicide	roverty	crocodile	hetrothal	residue
disbelief	ligament	tannery	synopsis	increment	rosmary
scrutiny	aversion	pararrash	violin	apartment	modesty
alphabet	percentage	foreigner	enlthet	potency	sauerkraut
explorer	centralto	axiom	comforter	permittance	ignorance
attitude	origin	monctaineer	enemy	messenger	appointment
alarmist	novelace	employment	figurehead	effigy	refinement
nocty	conveyance	allegiance	chemitry	finery	prosomy
contention	flypaper	accomplice	riety	alderman	chocolate
architect	liniment	reony	iodine	criminal	angora
ecstasy	circible	area	resimnt	adventure	militia
selfcontrol	mandolin	foundation	particle	handkerchief	symphony
	abatement	probation	rudiment		



THREE SYLLABLE WORDS

Rejected

souvenir	depletion	conjunction	admission	partisan	esplanade
inaction	botany	assertion	adjourning	exemption	covering
disrespect	volition	humanist	customhouse	excellent	humanism
marguerite	forfeiture	intercourse	rotentate	pleurisy	omission
battlement	symmetry	temperance	alienist	libretto	surmation
terpaulin	louvreletter	fallacy	parliament	concretion	freemason
promotor	detriment	sanctity	citation	safety	inclosure
dispersion	impatience	lymphatic	energy	aggregate	cynicism
huoyancy	communism	defective	coquetry	electrode	penury
heraldry	narcessus	nan tomime	everglade	tympaan	erasure
environs	resemblance	aeronaut	fatalism	coroner	glossary
exereescence	maximum	incapion	venetian	hymnosif	ni gonette
filament	condolence	exodus	lutheran	conjunction	statellite
intimate	magnitude	accordance	foolery	excellence	indenture
eviction	clemency	privation	negation	sovereign	corrosion
exchequer	perfection	storchache	contagion	reversion	eczema
imminence	pacific	furrer	mannerism	vestarday	votary
confidence	chambermaid	mechanist	iota	defaulter	libation
syllable	disfavor	nutrition	covenant	selfrespect	aubony
Minerva	solitude	sophistry	horoscope	arriando	dezizek
desertion	macadam	incisor	extension	detracton	declension
harbinger	retina	remarriage	enlargement	narcotic	element
flotilla	secretion	landrubber	rectangle	consonant	Zodiac
induction	chastity	arcenal	reverence	jeopardy	substitute
initial	unicorn	saliva	abstraction	ordinal	substantive
myriad	agreement	Jezebel	humankind	arhorism	legation
condiment	negative	underling	filigree	elision	retailer
dillifence	perception	manicure	recreate	cognomen	retunda
connective	revery	correction	laity	betterment	leprosy
unconcern	imagery	prototype	strophy		



THREE SYLLABLE NOUNSRejected

contusion	matricide	epigram	Indiar	emery	dogmatic
India	radical	contentment	celluloid	mercenary	agnostic
atonement	flamellum	Pentecost	freemancy	fortunose	intestinal
drollery	trinity	freedness	equation	metronome	cornea
socialism	emptiness	iceiness	obtrusion	publican	epitaphic
designer	cuttlefish	Egyptian	emersion	paualeats	longitude
embrace	epanilet	loverakias	overtone	burglary	openwork
demerit	idiot	caldenial	overtone	terragant	fruitful
severance	lacillus	narcosis	valuation	impotence	federal
concurrent	pantheism	pro'ector	dilution	indleness	tutelage
manacle	ressimism	rendezvous	balustrade	Jamaica	handiness
levity	exponent	centrifugal	custody	decoction	bifamy
renegade	overtime	altruism	listervine	handorgan	vertebrae
contraband	truancy	Renaissance	lacinate	vectoriasm	sacrament
ordinate	arrangement	regimen	confiter	precursor	cuttlebone
lunacy	mechanism	autopsy	fixity	platitude	neurosis
annual	paganism	sedition	Africa	stratification	metody
orifice	cuttlefish	elusion	osmosis	recedence	physicist
cutlery	coterie	vehicle	seduction	barbarism	displacement
commitment	paragon	decency	inclusion	rabition	conflagrant
unity	Atlantic	notation	nihilism	longrithm	evievs
earthiness	December	mental	regiment	witticism	monologue
multiple	adhesion	discretion	minimum	amoebs	ridicule
crudity	rockingchair	erosion	barleycorn	selfdefense	connection
clairvoyance	bonny	consistence	resicide	preemprion	creosote
abhorrence	Italian	metaphor	emergence	botliccoat	mazurka
nutty	etlogue	loveapple	errancy	colleivist	benefice
hollowness	plebeian	surety	cosmetic	billetdoux	irony
asterisk	remonto	Hercules	eleven	emousal	"orectry
expulsion	Catholic	continet	Saturday	plutobor	connosseur





### THREE SYLLABLE NOUNS

#### Rejected

ascia	absentee	mesmerism	synthesis	Adonis
ecotism	hostelry	frugery	hysteric	leopardin
sufferance	ostracism	cataclysm	linotype	carriage
allofti	travesty	alias	enigrah	almighty
median	cynosure	Sep'tamber	percussion	detachment
opiate	vagary	misnomer	aorta	amnesty
regimen	palacy	ellipsoid	underpay	monotone
fabouret	coaduit	serenget	esgayer	barometer
exposure	rheumatism	dermatism	analgam	devotee
Methodist	fixation	alibi	demijohn	audition
habitude	sasago	organily	condition	protestant
Horwegian	eightleth	presentment	diocese	communist
servitude	ecuntor	adjutant	commonwealth	Jehovah
magnetism	liberal	Nitrogen	alracc	hypnotism
simile	Nazarene	recession		

#### Homonyms.

oracle-article	complaisance-complaisance
divisor-diviser	princival-principale
councilor-counselor	controller-controller
carpal-serial	serilla-serilla
cavities-caritol	compliment-complement



ONE SYLLABLE VERBS (tr)

Selected

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

draw  
sink  
grind  
mud  
veil  
dim-  
skin  
bethe  
view  
trace  
solve  
hush  
ped  
greet  
close  
blind  
stche  
crown  
drive  
learn  
darn  
husk  
mind  
chill  
chant  
roll  
bolt  
teach  
notch  
sock

split  
cash  
weave  
clor  
cise  
lick  
tick  
trim  
thwart  
flow  
naz  
pount  
hate  
tan  
mix  
rob  
slash  
cher  
trece  
dary  
want  
mark  
prove  
flank  
take  
top  
wreathe  
hurt  
shake  
dress

leave  
cork  
crack  
quit  
speak  
bleed  
soothe  
munch  
chase  
skin  
shift  
save  
deer  
pror  
crasp  
watch  
aid  
steal  
sweep  
char  
russ  
weigh  
say  
mare  
blesch  
oil  
snot

drift  
trill  
rouge  
quote  
grape  
pinch  
heat  
taunt  
tus  
use  
smite  
tan  
peg  
loop  
ram  
belt  
arm  
life  
show  
blame  
trail  
twirl  
bind  
cross  
scrub  
choose  
paw  
noise  
bark  
quiz  
touch

soil  
heal  
date  
lift  
waste  
earn  
sip  
dranch  
ball  
pat  
bang  
smirch  
shut  
curve  
blast  
chiff  
mince  
hone  
rend  
plan  
vex  
bill  
bar  
brand  
boss  
tok  
sprout  
creed  
cap  
oust



ONE SYLLABLE VERBS (tr.)Selected

force  
 steer  
 singe  
 scold  
 squelch  
 snub  
 shave  
 taste  
 shell  
 whet  
 harm  
 thank  
 plug  
 post  
 tack  
 scrape  
 cuff  
 catch  
 string  
 straw  
 twine  
 scour  
 send  
 stun  
 mar  
 sail  
 charm  
 scale  
 shine  
 tip

lock  
 time  
 hound  
 sound  
 change  
 ape  
 fight  
 bore  
 fix  
 lore  
 mint  
 maul  
 coach  
 craft  
 wean  
 craft  
 clench  
 guess  
 wound  
 warn  
 dab  
 toast  
 lead  
 time  
 dent  
 deal  
 spin  
 turn  
 snip  
 gouge  
 crease  
 snill

hitch  
 shout  
 toss  
 nod  
 hug  
 mow  
 end  
 bake  
 fit  
 stab  
 snuff  
 keep  
 salt  
 comb  
 rear  
 rear  
 hoe  
 seize  
 clutch  
 starch  
 sing  
 set  
 shed  
 shoot  
 loathe  
 please  
 hurl-  
 buy  
 daunt  
 lynch  
 blaze

splice  
 pry  
 ray  
 smear  
 race  
 stock  
 haze  
 breed  
 mould  
 mock  
 match  
 do  
 coach  
 hunt  
 rule  
 fling  
 throw  
 grab  
 lisp  
 tire  
 boil  
 nurse  
 rear  
 print  
 probe  
 rout  
 tread  
 part  
 swirl  
 scan  
 read  
 bat  
 bob

splice  
 pry  
 ray  
 smear  
 race  
 stock  
 haze  
 breed  
 mould  
 mock  
 match  
 do  
 coach  
 hunt  
 rule  
 fling  
 throw  
 grab  
 lisp  
 tire  
 boil  
 nurse  
 rear  
 print  
 probe  
 rout  
 tread  
 part  
 swirl  
 scan  
 read  
 bat  
 bob



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
back	help	find	rigus	cut	fill
check-	kill	freeze	snaw	stretch	bend
thread	hurt	cheat	cheat	twist	yell
nick	give	starve	flash	file	breathe
wed	press	cut	price	hinge	sap
fold	pass	bridge	count	plant	streak
call	raid	voice	how	slight	trap
watt	lace	fan	carve	join	heed
choke	tax	break	heave	fine	cease
seent	vote	clip	doom	stir	fire
cure	wage	free	load	ring	lay
beg	clean	nuage	trot	sort	thump
gaze	forge	solve	dig	fray	thrust
claim	scorch	chip	scite	paint	tuck
wind	plow	make	bump	sting	crunch
plot	brave	slide	roll	cheer	move
cheer	cook	wear	switch	till	urge
churn	owe	stroke	rinse	haul	roam
clasp	force	launch	still	was	rip
gag	tour	serve	trick	meet	flap
praise	snatch	stamp	wash	tear	thrill
poke	tow	hang	rarse	duct	wend
cleanse	dredge	let	rush	bruise	clog
nip	drir	blink	dab	light	shape
bribe	eat	air	trust	kiss	hem
reach	wake	love	tie	drop	shill





ONE SYLLABLE VERBS (tr.)

Selected

miss  
pet  
fear  
ack  
swamp  
stack  
bluff  
dupe  
hum  
spend  
hide  
through  
drawl  
fly  
score

wield  
mop  
blight  
shift  
climb  
note  
crimp  
bring  
own  
hatch  
flaunt  
stew  
kick  
grease  
slide

hour  
cure  
shrub  
dip  
act  
realt  
fell  
roast  
bounce  
relash  
tell  
press  
blot  
doubt

taut  
yank  
knock  
mile  
troil  
chide  
hail  
like  
scratch  
pledge  
hail  
quench  
strain  
coil

smell  
eke  
milk  
brow  
thaw  
gulp  
hiss  
drain  
place  
don  
shade  
rue  
lend  
jar



ONE SYLLABLE VERBS (tr.)

Rejected

wade	feel	spring	sue	dole	belch
dwarf	soar	scorn	test	'ot	pell
bank	slip	foal	twitch	dub	stem
twit	curse	bid	wish	tramp	foist
dare	mat	arch	tempt	smelt	brace
sport	swell	fade	pop	try	dream
curse	chafe	suck	flood	ret	crowd
shame	merge	foil	pierce	thrum	rig
feign	rare	rain	yield	grave	flip
trump	plunge	dine	grire	walk-	clear
form	wipe	mess	rate	brick	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	march	prize
crave	grant	sweat	tick	toll	lure
scheme	gone	break	trip	seat	gain
look	vow	filch	cry	weep	list
deck	mesh	lull	maim	slant	cull
rid	felt	clan	crash	stud	land
ply	souse	sad	sup	chain	lodge
gauff	quaff	swift	wreat	mean	strip



ONE SYLLABLE VERBS

HOMONYMS

dye-die (intr.)	pair-rare	riqué-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	ran-wrap	



TWO SYLLABLE VERBS (tr.)Selected

inspect	escape	decoy	unveil	unfold	shackle
receive	vacate	embrace	wiggle	secrete	defame
incur	limit	control	surmise	riffle	abhor
declaim	forseake	season	measure	conceal	heighten
edit	confide	fortid	imede	withhold	puncture
bombard	horsewhin	forestall	appraise	contrive	revile
riddle	install	salute	compare	dictate	finish
vanguish	proffer	exmate	frizzle	study	alarm
detaim	instil	conduct	promote	hurdle	uproot
deserve	excuse	transform	carry	destine	sunburn
bisect	pronound	soften	attach	transpport	disclaim
elude	prepare	involve	lower	saddle	outwit
smother	translate	enroll	preserye	parboil	relish
conquer	despatch	indorse	waylay	fathom	echo
protect	endure	confuse	chastise	devict	accuse
detect	finagle	unturn	urchase	afflict	embalm
misjudge	pity	desert	rebuff	offer	refresh
suggest	transmit	allere	reverse	refresh	engulf
pardon	tickle	support	sharpen	enhance	excite
unhold	weaken	weave	inpart	disperse	pester
provide	unlift	argue	adore	forgive	commence
import	consult	notray	unlearn	decrease	reward
betray	blackmail	manage	reclaim	renair	instruct
corode	scribble	suspect	revive	console	unmask
merit	varnish	favor	unset	oblive	oblise
deepen	nibble	borrow	command	defy	return
ignore	lament	outclass	detach	enlist	unlock
fracture	discard	threaten	ripen	model	solder
compose	boycott	divide	master	noison	assume
improve	reflect	whiten	attempt	rummage	hinder





TWO SYLLABLE VERBS (tr.)

Selected

enchant	cancel	hurry	shuffle	export
tackle	infiltrate	subtract	perplex	disrel
gamble	bolittle	befriend	invest	swallow
lighten	bequeath	adjust	efface	reverse
produce	detail	decide	appoint	embrace
crumble	volute	revise	counsel	evade
frustrate	crinkle	destroy	exert	prefer
strengthen	arouse	broaden	shingle	benrcek
enrout	increase	debate	whistle	concede
pucker	derive	blaspheme	obey	conclude
entreat	dislike	indent	derange	incense
refute	emit	effect	mention	furnish
confess	entreat	surrass	blindfold	create
strangle	inject	follow	entrance	annoy
crumple	trouble	discharge	rotate	beKrudge
unloose	defraud	exclude	behend	obstruct
absorb	exult	believe	increase	dissact
insure	absorb	confound	entwine	possess
ascrube	loosen	exile	bother	commend
buckle	toughen	pronounce	filter	inflame
exceed	transplant	attain	honor	condense
displease	convoy	distract	accain	rally
perjure	apply	besiege	avenge	murder
enjoy	evoked	correl	perform	misplace
anger	enjoy	extract	issue	enshrine
fondle	deny	eclipse	fritter	anzer
worry	divert	approve	reprint	redeem
conceal	express	emboss	fancy	whittle
sully	deluge	unearth	enthrall	lavish
	finance			challenge
				polish
				recall



THE SYLLABIC VERBS. (tr.)

Selected

implant	exchange	worship	cherish	neglect	upbraid
balance	equip	renounce	rehearse	decree	bartize
obtain	indulge	suppress	afford	adorn	witstand
deter	fuelle	refine	convene	frighten	array
utter	adorn	throttle	bestow	acquire	reform
pickle	resume	explain	succor	visit	reform
veto	inhale	misuse	traverse	focus	focus
browbeat	blaster	corrupte	purpose	foretell	bolster
discuss	recount	answer	hoodwink	restore	restore
muffle	arrest	charaten	survive	avert	avert
reprove	eject	dispute	disgrace	unroll	require
explode	ponnel	transfer	vary	convict	un'le
collect	relieve	allow	imair	exploit	disarm
dec lodge	buffet	notice	padding	entail	accept
resent	capture	consume	forego	revenge	revenge
repeal	omit	sadden	marshal	release	release
depose	surron	evac'	fulfill	assess	assess
parade	adourn	design	scudder	impress	open
roughen	ascend	regain	curlin	covet	harass
engage	deface	insult	debar	discount	misprint
succeed	offset	imply	recite	outline	discrep-
handle	provoke	imbibe	divulge	prolong	endow
yaddle	dazzle	astound	submit	evolve	audit
undo	reward	submit	refuse	enter	correct
recruit	recruit	surmount	hampar	retrace	maltrait
catchround	warble	ruddle	mumble	flatten	banish
consvour	apral	lether	distend	color	slacken
repeal	display	observe	invert	arrend	proclaim
repeal	murmur	disprove	af'ry	amass	repeal
remit	dethrone	revoke			



TWO SYLLABLE VERBS (tr.)Selected.

inspire	attack	accuse	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	distain
bias	stifle	jostle	relax	distort	enrage
compute	beguile	relate	debase	amaze	amaze
ordain	perfect	rattle	lancet	iron	replace
outgrow	swindle	compress	retouch	cover	assist
depress	lecture	contract	paper	transnose	incite
defend	straighten	humor	select	conspire	propay
libel	tutor	reckon	darken	imbué	begin
injure	fluster	delect	practise	sample	postpone
engrave	inform	combine	affront	bandy	thicken
explore	record	devot	abash	lessen	sprinkle
invite	persuade	forecast	level	demand	consign
master	dunfound	eject	suffuse	assort	mistrust
congest	enlarge	enrich	plunder	beseech	unfurl
shovel	secure	dampen	bully	disguise	ordure
slander	insert	distract	bevel	supply	unearth
review	devour	usurp	anoint	settle	patrol
erase	repeal	surround	hammer	hemoan	shelter
deprise	scatter	richead	offend	advance	advance
revel	pillage	transgress	denounce	disturb	harden
forebode	locate	forfeit	prejudice	regret	sunder
expel	accent	dilute	render	augment	approach
annex	powder	perturb	herald	describe	deceive
license	secure	degrade	abus	exhume	desafen
flavor	commit	forewarn	perceive	achieve	resent
enclose	extend	sovereign	address	scatter	dismiss
infest	subscribe	retrieve	reinscribe	impose	restrict
escort	retard	retter	accrit	misguide	susrend
disclose	abridge	tarnish	forget	assert	condemn
				retain	curtail



TWO SYLLABLE VERBS (tr.)

Selected

lather	deduce	decaden	allot	dilate	malign
construct	deduce	subdue	exhale	renew	impunch
rustle	distill	ruffle	invent	rebash	extol
profess	award	flourish	retail	rather	direct
enforce	quarter	infer	affect	confirm	assail
carry	hustle	curtain	concoct	resist	project
confront	exhaust	inscribe	appease	employ	untie
compilo	reduce	imbel	affirm	ransack	menace
remove	christen	oppress	reserve	defer	obscure
wager	arraign	imprint	levy	rublish	delude
hemstitch	avoid	lengthen	inflict	unload	contrast
mimic	admit	deform	survey	disown	amuse
second	digest	enthrone	crochet	exround	attract
bungle	concern	curdle	decline	Gobble	hasten
infact	revolve	chazrin			





TWO SYLLABLE VERBS (tr.)

Reflected

repress	deceive	construe	elate	excise	exchange
abase	trifle	bedeck	pervert	adjure	disrobe
acchew	corral	wobble	diffuse	repent	demand
enconce	premise	mature	restrain	despoil	temble
condone	suppose	preclude	rejoin	nicket	disbar
berave	banter	eavesdrop	induct	addle	constrict
welcome	displace	abduct	betroth	pretend	dispose
annul	confine	pivot	inure	deter	estrangle
gainstay	unnerve	disburse	conjure	adapt	endear
dribble	immerse	avail	dismount	decry	conceive
include	except	deplete	allay	intend	disjoin
inquire	re'vench	corrupt	vomit	erurt	expand
behoove	tumble	desire	attire	subject	upheave
ravel	travel	cobble	purvey	relay	compress
absolve	discern	beget	coerce	indict	constrain
wallop	regale	grumble	belie	maroon	connect
better	solace	ribble	nestle	disgorge	disrupt
forage	excrete	reray	warrant	outdo	maraud
vary	cas'pate	oppose	hurrow	account	addict
induce	be'fall	erect	brcade	conceit	comprise
beckon	decant	ruin	bellow	reduce	value
submerge	allure	deride	unsex	mangle	portend
denote	undress	fixate	divest	excel	confer
detract	foster	fo'ggle	erode	embed	confute
assay	transfix	recoil	straddle	equate	treble
ravish	absent	wrinkle	cudgel	evict	become
remit	abstract	exude	enfold	ally	diet
commute	water	taboo	twinkle	retract	abjure
seduct	alter	accord	devil	presume	effile
withdraw	transcend	taper	exempt	lasso	contain
rupture	outstretch	convulse	assure	unbend	expose



## TWO SYLLABLE VERBS (tr.)

Reflected

figure	suckle	assault	amend	mingle	abide
	expire	hobble	refer		

Homonyms

Peddle-pedal



THREE SYLLABLE VERBS (4.)

Selected

oversee	inberil	devastate	eratify	fabricate	alternate
lubricate	reerrand	incubate	summarize	comprehend	amputate
interpret	decorate	sanctify	scandalize	marvify	separate
modulate	enliven	liquify	elevate	deliver	hymenate
isolate	concentrate	disconnect	eulorize	persecute	discover
notify	telephone	reinforce	counterrand	overdo	performate
magnatize	derosit	overcome	counterse+	inarrupt	beautify
interlock	decipher	uncover	petrify	inhabit	replenish
disburse	realize	synctuate	mas+icate	interline	uncouple
admonish	centralize	permeate	enfranchise	criticize	subdivide
purify	occupy	liberate	overlook	benefit	duplicate
overflow	ventilate	manicure	disheertran	unholster	scrutinize
overrule	disconcert	navigate	valiquish	dishonor	abolish
verify	disobey	understate	ambitter	minimize	tear+glaze
intercept	imitate	memorize	solicit	crystallize	irradiate
determine	disarrange	moderate	rectify	stimulate	recover
certif-	unravel	reunite	organize	represent	desecrate
penetrate	overwhelm	celebrate	recommend	interest	advocate
undertake	consider	overbreach	annoy+ion	embellish	tabulate
legalize	indicta	diagnose	acknowledge	tranquillize	venerate
undercore	distillate	enactise	attribute	contradict	sacrifice
reproduce	vaccinate	encumber	civilize	horrify	viccidate
proscute	entitle	overrun	astonish	stimulate	encounter
elicit	arrieve	edify	oblivate	acclimate	dismantle
discolor	clarify	simlify	outnumber	illustrate	diffiture
expurgate	subvicate	undermine	overtake	remember	overthrow
ascertain	liquigate	strengfy	sanctify	pres+prose	terrify
contemplate	improve	embroider	revisiter	embattle	discourage
disable	satisfy	underpay	utilize	over+ate	
	imarine	disappoint	ratify		



THREE SYLLABLE VERBS (tr.)Selected

vivisect	unsettle	covrict	disinfect	cavivate
aggravate	designate	furinate	counterfeit	distribute
saturate	overawe	embarass	irritate	embarger
perpetrate	overlap	fascinate	glorify	satiated
emphasize	discredit	justify	assemble	overhaul
belittle	insultate	mystify	multirly	abandon
accomplish	remodel	serracate	dominate	nominate
terminate	nullify	imprison	recollect	confiscate
countersig.	deify	catechise	intersact	misinform
alienate	understand	undergo	subjugate	volunteer
dedicate	classify	snacify	suffocate	reinstated
overlap	interchange	prohibit	burglarize	decompose
encourage	disinter	substitute	survive	exhibit
interpose	republic	saitate	examine	circulate
extricate	amplify	morify	introduce	recofnize
tolerate	dismember	telegrah	overcharge	forechadow
estimate	manifest	distignish	constitute	overgrow
resemble		antedata		





THREE SYLLABLE WORDS (tr.)

Rejected

inveigle	enervate	populate	circumscribe	enlighten
illurine	intercourse	lascinate	extimate	actuate
embody	accusate	expatiate	procreate	deprecate
typify	domineer	digitify	analyze	apprehend
impregnate	forcoordin	nocturnate	entangle	osculate
sublimete	viticte	incalicate	disavow	polarize
implicate	elongate	aggregate	fertilize	localize
mollify	riginate	predispose	minister	emulate
comensate	equisline	disallow	engender	vanify
disorder	unify	underrate	obviate	transfigure
estracize	dissipate	subsidize	skronize	correlate
qualify	reirburse	survivede	envelop	interlace
putrefy	concrete	decimate	antecede	comprise
graduate	predestine	inhibit		



CHE SYLLABLE WORDS (intr.)

Selected

stoop	doze	snicker	laugh	hore	orange
race	hask	skit	snarl	talk	prowl
pray	whew	speed	blush	drift	spin
err	brood	snout	nout	stroll	sob
chime	vic	vine	yawn	glance	swish
bounce	hint	swirl	croak	snooze	yearn
toil	skate	hoist	vice	nest	yearn
live	cease	swoop	roan	snirk	yearn
slip	snip	snout	snarl	snirk	yearn
limp	sneeze	crisk	snare	snirk	yearn
flare	rash	slink	snare	snirk	yearn
row	cease	snarl	snare	snirk	yearn
yowl	swerve	snarl	snare	snirk	yearn
trudge	rust	snarl	snare	snirk	yearn
stare	scowl	snarl	snare	snirk	yearn
stare	rust	snarl	snare	snirk	yearn
quack	roar	snarl	snare	snirk	yearn
whoop	scream	snarl	snare	snirk	yearn
spaw	flirt	snarl	snare	snirk	yearn
sprawl	crawl	snarl	snare	snirk	yearn
crack	lick	snarl	snare	snirk	yearn
stew	snip	snarl	snare	snirk	yearn
whiz	snip	snarl	snare	snirk	yearn
reel	snip	snarl	snare	snirk	yearn
stunt	fall	snarl	snare	snirk	yearn
grieve	sloat	snarl	snare	snirk	yearn
purge	cluck	snarl	snare	snirk	yearn
flare	slink	snarl	snare	snirk	yearn
stride	tud	snarl	snare	snirk	yearn
flap	fish	snarl	snare	snirk	yearn



ONE SYLLABLE WORDS (1, tr.)Reflected

deign	squat	stave	razo	lapso
peer	drop	surge	band	cepe
spawn	bulge	bay	teem	perch
wait	ball	seen	trou	waito
rove	comp	see the	vouch	peer
last	shall	prate	verge	must
fast				

Terminis.

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



TWO SYLLABLE VERBS (intr.)

Selected.

dacryd	conceive	plunder	rejoice	converse	lanquish
hovey	swagger	echera	torry	relapse	collide
decey	oddy	wonder	abound	thunder	succumb
discourse	cauter	barrain	hobnob	timber	loiter
ensue	rebound	zigzag	ascend	eccour	fangle
shimmer	sparkle	perysic	clatter	perble	collapse
receive	licker	subside	toddle	grapple	sally
waver	resent	enter	demur	elapse	retort
object	revel	wrestle	elicten	ambark	perley
compete	elope	wriggle	intrude	conflict	tear
wander	stumble	partow	float	perble	brink
cancel	staree	hammer	cover	recline	arise
relent	bubble	wither	clamber	pertain	stragggle
caller	frontle	tear	leech	flounder	condole
dissemble	emerge	squalble	preside	chatter	saunter
amble	quibble	suffer	perspire	stutter	ramble
smokey	rouder	huffe	deceid	tattle	whacky
filter	cevisc	trickle	comply	abstain	suggle
confel	beware	euroach	decece	permeel	reine
exult	remark	peetla	gravel	subside	charge
stagger	proceed	reside	fishet	subsist	whisper
recur	align	spellix	quander	struggle	prosper
diaphy	fizzle	scarper	titter	vanish	incline
giggle	resound	crackle	eckle	behave	resort
fiddle	glitter	holic	icturn	revire	depart
reason	shiver	exclaim	flutter	patte r	bitronac
speede	triumph	liker	arpl	saime	harvel
steammer	tally	reipreat	strigle	dringed	estripast
crackip	belong	teft	cecur	repose	clunkle
blorron	blutter	rebound	spatter	recede	pulsate
decist	wrangle	huddle	coastlet	wallow	pestrate
consent	remain	tingle	haggle	quiver	peravil
salter	scoury	vibrate	rumble	savor	





TWO SYLLABLE VERBS (1000)Rejected

alreod	conform	swalter	ferret	angle	outcrop
accrue	dally	amount	snuff	accuse	rebel
adhere	revert	dawdle	protrude	impend	labor
dicker	dissent	account	refrain	toady	retire
agree	exist	pander	allude	rumor	listen
prografe	disgrace	purport	inwirth		



THREE SYLLABLE VERBS (ACTV.)Selected

deviate	immigrate	fluctuate	intercede	legislate	coincide
conspire	disapprove	palpitate	countermarch	disappear	justify
oscillate	perpetrate	theorize	disembark	endeavor	overstep
nearby	percolate	overhaul	emaculate	emigrate	acquiesce
emanate	undulate	meditate	coexist	gravitate	sympathize
intervene	condescend	gortadize	hesitate	convalesce	interfere
moralize	culminate	disagree	renounce	justify	

Rejected

preexist	altercate	evanesce	vegetate	interact	temporize
re'rogate	disincline	militate	ulcerate	ripenery	



PRACTICE DAY 1

<u>1 syll. adjs.</u>	<u>1 syll. nouns</u>	<u>2 syll. adjs.</u>	<u>2 syll. nouns</u>
mere	scrap	formless	cobble
first	month	Belgian	telltale
nude	creed	mushy	chillblain
two	lick	aglow	nothing
next	grace	hairy	bigness
west	trend	ribald	Sabbath
jet	nine	strongy	elect
back	five	frugal	entire
six	rock	latent	booby
sparse	cowl	southeast	asset
most	rot	snappish	comma
worse	snare	fourteen	falseness
prime	fluff	abject	thousand
rank	hor	forty	slattern
third	mash	gluey	flaming
much	hulk	adroit	docket
one	puss	obscure	million
east	slack	eighteen	acme
ninth	writ	alpine	total
sound	beam	racy	drier
three	rot	unborn	cosmos
eighth	snoke	German	friction
nine	rut	any	wobble
hind	volt	verbal	badness
teeth	breast	noiseless	fifty
dire	trump	morose	scion
dark	norm	rooty	bastard
chaute	kind	fifteenth	semblance
few	sor	Prussian	mytic
each	Czar		doorstep
			unlike
			matrid
			snowwhite
			neasily
			fourfold
			hidebound
			pliant
			entire
			tucesday
			stamer
			specie
			eighty
			sinless
			flexor
			Normal
			hawkish
			middle
			wallow
			sorghum
			extent
			surplus
			liter
			ratio
			ditto
			quadroon
			outskirt
			truism
			Bachus
			midway
			seven
			lovefeast
			crossroad
			thorax



REACTIVE DAY 3

<u>2 syll. adfs.</u>	<u>1 syll. nouns</u>	<u>2 syll. adfs.</u>	<u>1 syll. nouns</u>	<u>3 syll. nouns</u>	<u>2 syll. nouns</u>
virile	Turk	natty	cross	shortsighted	maggot
sift	shank	squeamish	thrall	presumptive	filler
thirsty	scrow	lustrous	huff	flagellant	mistress
monthly	vatt	farther	noun	volatile	emress
cognate	gland	viscous	whit	insinid	storage
toxic	sup	moody	skin	apronos	spectrum
lustful	flip	pradish	manx	flamboyant	killer
pendant	batch	focal	war	inherent	sparmint
undress	seed	lirid	tryst	didactic	bottom
narry	ware	ninety	heaves	thirtieth	dictum
direful	spawn	effete	gram	seventy	amends
laughid	damp	Irish	Celt	fiftieth	today
devoid	vogue	sixteen	krist	electric	concord
dulcet	Mars	eighty	fohl	tractable	adverb
Chinese	Strain	loveless	rint	adinese	Christian
upstairs	tax	eastern	eyes	unfalling	Virgin
extra	Orcel	concava	young	caller	Spaniard
crisscross	back	Danish	brank	emergent	ditto
crystal	Sweden	eastward	tab	disruptive	default
fetid	stint	eighteen	rick	probably	autumn
northwest	ten	highflown	stud	synchronous	Irish
innate	Swiss	English	deuce	prolific	public
hindmost	Lymph	apop	slink	recreant	flapper
flaccid	dune	million	six	tendinous	affray
neither	horse	overt	two	insurgent	inquest
smutty	lark	Christian	drum	debonair	discent
astral	slyph	Swedish	oat	nolitic	upstairs
duple	verge	northeast	crip	affecting	respect
fivefold	drake	fatile	twelve	sixtieth	sequence
hircute	ace	thirty	cock	veracious	





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
claw	grinder	upper	preference	receptive
sneer	muffler	murky	cuticle	crystalline
share	statement	raked	transition	descriptive
pulp	incense	flimsy	hypocrit	heavenly
crunch	cudgel	sleery	embassy	scandalous
swish	visor	vivid	tallyho	deductive
freak	skirper	partial	cremery	scholastic
light	keepsake	human	verisink	lucrative
leap	beeswax	healed	corafother	recumbent
clue	bracelet	foxy	maskelon	luminous
splash	peacock	skittish	disclosure	ruinous
legume	raval	ethic	stadium	savory
snail	hukle	snowy	exertion	pitiless
dike	live	sorry	overalls	usual
slaw	column	sorry	management	baptismal
mound	baroad	golden	pretender	counterfeit
key	sermon	robust	landholder	lineal
lad	reagan	warlike	skeleton	usable
risk	helme	rival	patinee	roundabout
err	porcorn	zovovous	heverare	intrinsic
wing	fellow	allaze	rievable	decimal
tap	social	greedy	orient	contented
wreck	esquire	antoom	invision	portable
drove	facrer	shaky	repprimit	constructive
screen	diction	prucefal	nursery	unfaithful
pump	recource	senior	lavender	conscient
snob	folkour	unhurt	lobolink	dominant
chop	restraint	sharpy	republic	unreflexous
seor	snowstorm	hezy	insuravae	delicious



ALPHABETICALLY

<u>1 syll. monos.</u>	<u>2 syll. dis.</u>	<u>3 syll. monos.</u>	<u>4 syll. dis.</u>	<u>5 syll. monos.</u>
brusque	unread	creature	dignified	orchestra
wife	middle	water	consequent	example
reeve	floury	starch	aqueous	molasses
white	many	butcher	cardinal	tendency
rice	fervid	melon	elastic	terrace
seant	frantic	orphan	imperial	reception
moist	recant	sucking	lethal	leaching
bold	slame	or-rich	incoming	assessment
lame	claky	shekel	contingent-	vacation
big	tiresome	pleaty	respective	cinnamon
high	radial	journal	suggestive	rattle snake
best	unreal	ally	resplendent	magistrate
game	marshy	account	unblamed	acceptance
lost	quiet	blackball	excellent	caravel
tough	maple	absence	legible	onlooker
harsh	barre	crowder	unwilling	survivor
calm	brudze	peddler	anxious	raspberry
dull	head	pelish	loquacious	stiletto
shy	deal	gallon	desolate	hobnobbin
gray	notite	le-rod	unwary	agency
shrill	sway	colic	aridite	monarchy
blue	fringe	margin	substantial	delegate
short	corn	rubbish	esthetic	retailon
scw	siege	horseshoe	tubular	maison
round	porous	wallock	roservative	direction
broad	cow	reward	confurate	postmaster
deft	steam	outrage	defertite	scornion
chrems	clerk	membrane	incumbent	pharisee
tart	trile	airance	angelic	avowel
fant	roap	safe	downthearted	subtily



REGULAR DAY 4

<u>1 syll.adfs.</u>	<u>1 syll.nouns</u>	<u>2 syll.adfs.</u>	<u>2 syll.nouns</u>	<u>7 syll.adfs.</u>	<u>3 syll.nouns</u>
tall	bump	sullen	party	arrogant	forbearance
stout	clang	intense	sherry	payable	advancement
loose	turn	rulky	jackal	submissive	digestion
straight	mar	abast	handwork	exotic	excitement
false	bill	slender	romance	efficient	domicile
tame	thrift	beid	sanction	concoited	bitterness
drunk	ball	bitter	relic	roseate	typewriter
slim-	verte	sudden	blister	unruly	oriole
fair	gout	unformed	curling	reluctant	redigree
sleek	bird	lesal	outfit	inherent	utterance
vast	din	rafid	entler	absorbent	stratagem
brief	proof	vaughty	detour	concoited	sunbonnet
tense	sap	level	scolor	dramatic	constancy
long	truce	masky	recoil	eccentric	carity
spare	drug	nodarn	sapphire	dissolute	dividend
clear	breath	leadin	eyepiece	essential	alliance
deep	grunt	ghastly	surrey	spirious	immigrant
fact	trage	anxious	netman	impulsive	eminence
blond	van	savage	triumph	incisive	conundrum
meek	voire	avid	discourse	subjunctive	offering
new	firm	starey	renace	talkative	manikin
fresh	ship	awale	fable	ordinal	chickpeax
thick	tuft	skilful	razor	tremulous	brewery
hard	cheek	antique	traffic	becoming	arena
cold	squar	lenient	sonnet	connective	theater
left	mule	blucky	landlord	resistant	protection
light	foam	trusty	outout	peniless	embankment
cheap	lord	scanty	prairie	delect	admiral
dead	swore	funer	adjunct	occurred	reticue
burnt	front	ready	ranknife	redundant	attention



REGULAR DAY F

<u>1 syll.nouns</u>	<u>1 syll.adjs.</u>	<u>2 syll.nouns</u>	<u>2 syll.adjs.</u>	<u>3 syll. nouns</u>	<u>3 syll.adjs.</u>
tact	slight	contour	lively	sycamore	dolorous
depth	prompt	tribune	intent	avalanche	acoustic
churn	flum	hockey	arms	furrow	temporal
gap	dry	crevasse	perfect	quandary	classical
blur	crisp	homestead	matchless	telegraph-	dangerous
slab	odd	return	suburb	carreanter	ignoble
zinc	low	apprise	arid	unheaval	tactful
sky	coy	lapse	faithless	tradition	emphatic
hilt	blant	solder	baneful	diffusion	federal
ranch	old	camel	supreme	formula	revelsive
club	keen	vaudeville	homesick	ambition	barbaric
salt	dim	truant	oral	election	unconscious
leaf	fine	insight	subtle	proceeding	expressive
arch	bed	prelude	rubble	employee	grammatic
slash	swell	havers	lifelong	reembrance	unwritten
hope	bright	guitar	wooly	strategy	easterly
ear	frail	clearance	likely	mineral	almighty
fad	lack	runner	tical	etiquette	negative
drill	pluff	maneu	further	sensation	comical
shack	droll	counter	strident	cranium	unhol
flesh	sour	drawbridge	modest	inflexion	ethical
lot	hald	vind	finel	prejudice	positive
cup	trite	rinon	fallow	abstinence	detious
loan	teer	catia	stony	government	ambitious
class	dark	railroad	woody	acrobant	seclusive
stilt	brisk	millor	balmy	kerotene	whimsical
ceve	safe	solinter	frigid	noriana	incolent
shad	air	champagne	splendid	cassaloune	magnetic
bit	same	potage	lignan	oasis	organic
war	late	knuckle	farad	hollyhock	shortwinded





REGULAR DAY 6

<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>
blithe	couch	listless	downfall	reproachful	compassion
apt	sob	random	oven	inventive	rockery
buff	bat	icy	gymnast	unrivaled	suicide
vire	rest	unkempt	bonnet	humorous	abundance
pure	sun	shallow	tenure	tremendous	warfarer
stead	sprig	mazy	hizzard	rational	creator
queer	acbe	ashy	rumpy	derided	radiance
poor	muff	scarlet	houlty	intricate	privacy
quick	bun	flashy	detase	conversant	dimension
stilet	roof	soary	raddle	ctitious	agitive
sad	sow	ofhand	huckster	national	diphonor
sluar	fund	wary	cravice	corroal	susvender
sharp	tile	wotten	ragire	contrasted	colony
fierce	hill	wakeful	upset	inclusive	parachute
mild	lamp	lofty	coucin	neglilent	institute
firm	crest	beastly	erile	numerous	construction
sick	splint	whiteful	charter	hegient	oggerel
nest	thrill	yellow	mintep	judicial	treachery
snug	brude	wondrous	harelin	intrepid	boulevard
pink	lake	shameless	entrance	delicious	professor
yo-yo	comp	facile	mandate	revolute	hickory
some	blame	sovereign	parlance	clamorous	aunora
lour	vile	fateful	unlift	destructive	molecule
strey	skunk	single	countlet	infectious	telescope
warm	scot	rectal	wicket	unfettered	opinion
rad	haste	wicker	whisk	unfought	committee
staunch	veal	redhot	whar	chamoa	animal
terre	line	woolen	arobot	unfeather	cran
vile	yelp	heinous	steward	retentive	nichtingale
frank	hell	frequent			



ALPHABETIC DAY 7

<u>2 syll. nouns</u>	<u>2 syll. nouns</u>	<u>2 syll. adjs.</u>	<u>2 syll. nouns</u>	<u>2 syll. adjs.</u>
access	grateful	ivory	rugged	soliloquy
measles	exact	harems	foggy	elector
body	social	permit	sturdy	mechanics
matron	liquid	raffle	dusty	sonnets
muscade	worthy	codder	boundless	November
robin	ferrous	thunder	sleety	countenance
herring	billy	plaza	latest	slavery
culvert	leaves	colby	drowsy	location
painting	hoary	poison	homelike	assistant
effect	fearful	riot	ferrous	habitat
mouthpiece	suspicious	decrease	floral	piacenza
prison	lective	partner	florid	eyewitness
rooster	pleasant	decade	serenely	affluence
trooper	dying	swallow	oblong	receive
granite	hateful	dormer	urgent	balcony
felon	useless	archway	prostate	archery
steamdrill	healthy	snowdrift	hungry	favorite
volume	able	hardback	stately	torpedo
plique	heartily	etern	haughty	emotion
churchyard	double	pantry	draughty	overshoe
footprint	harmless	virtue	unwise	dramatist
outpost	curly	connect	flossy	hobbyhorse
speaker	ruddy	turtle	oaken	advantage
deceit	paltry	walrus	crooked	vaseline
nickname	rocky	barlor	haunted	terrace
caro	wreath	coffin	endless	invasion
dummy	handy	structure	varrant	nitrous
pincheye	spiteful	hedgehog	varrant	ludicrous
candle	seasick	orthole	hardid	extensive
ringworm	brutal	era	hasty	horrible
				indefatigable



SYLLABIC DAY 6

<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	dissect
gracious	debra	robust	robbery	vertiginous	narrator
sickly	filter	movable	assemblage	corrosive	utensil
filthy	courtship	unracious	congestion	pernicious	conductor
occult	journey	aggressive	paritan	existent	horsecover
local	sweeper	revellet	heritance	resitent	oration
swampy	pivot	antidy	dynasty	dastardly	absorbant
collis	poet	convulsive	evocative	versible	detection
tranquil	lotus	granular	altruistic	exhaustion	rhetoric
load	trial	veritable	nicotia	perical	mayonnaise
honest	illust	inconstant	valisary	pusille	carousal
sincere	table	lecorous	invention	untidely	tenament
portly	thayer	unlikely	sunflower	seniores	ignony
outer	tremor	obscure	genotype	ostensiv	hippodrome
secrete	memor	indelay	gallery	oblivit	occasional
cecidy	accuser	unrelige	disfranch	impressive	cordialice
front	zither	repugnent	assortment	exonerates	deceadant
proca	vilot	cellul	lamprey	radiant	perspective
inside	kingdom	marcella	sanary	disloyal	merchandise
lazy	rolc	discontent	history	prominent	corruscle
stupid	goodwill	corabons	voldasar	religions	arrestant
torrid	advers	sufficient	decision	romarles	caravan
lytolase	landscare	obscureble	harriens	arrangement	davenport
vocal	linefiri	dellachent	trachonner	countifal	microscope
colera	surply	attentiva	advocate	foveal	divorcent
floral	outlaw	erumpent	allile	formative	arony
victual	portrait	satifal	adjective	compliat	raparty
heavy	hardine	concurante	underworld	physical	eastron
corp	varole	personal	submission	pretentious	arsenic
satful			physician	conspicuous	supplement



REGULAR DAY 9

<u>2 syll.nouns</u>	<u>2 syll.adjs.</u>	<u>3 syll.nouns</u>	<u>2 syll.adjs.</u>	<u>3 syll.nouns</u>	<u>3 syll.adjs.</u>
rabbit	tireless	coaran	outdoor	proviso	implicit
duchess	misty	result	vicious	exclusion	temaine
noe turn	divine	August	unclean	tobagan	obnoxious
miscance	corrupt	process	rasty	decoration	singular
forceump	docile	brigsade	orange	conscience	expensive
postscript	earr	padal	lilasse	athletics	mercantile
boycott	chilly	neighbor	clanny	commencement	inductive
adder	devout	writing	ortic	whimpoorwill	erratic
forger	clumpy	climate	simple	strawmatt	reficent
garnet	dorsal	tumor	wiry	handicar	halfhearted
perley	tasteless	sumous	humble	existence	executive
faction	darling	branco	chunky	collection	enormous
scripature	breathless	culture	feeble	rectitude	illnatured
sipsr	cursed	plaster	dandy	mackintosh	maternal
embrace	nervy	caucus	regal	decimal	ultimate
relay	ashamed	trarese	nealy	guardian	unequal
cologe	crucial	bridestroom	nervous	toroact	miscevant
request	hurtful	blawar	jolly	centrode	despondent
sinaxee	windy	cabin	slivy	instructor	criminal
idler	fragile	dessert	obtuse	disciple	deficient
harebell	distant	goblet	lackless	veradise	timorous
godger	plaintive	embor	drizzly	albatross	readable
libel	livelong	colloso	foothy	explosion	typical
heshell	native	soda	certain	telisman	rainmary
motiva	finite	riffaxe	lover	rotation	thunderous
plumbin	southern	Sultan	jealous	carthware	untraveled
miraze	massive	anzuich	busy	irritant	odurate
pennant	little	lawuit	wormy	recrvice	annual
birdle	youthful	donor	alert	ministry	radical
outlet	minus	outcome	dowdy	intellect	evergreen





REPELLAK DAY 10

<u>2 syll. ads.</u>	<u>2 syll. nouns</u>	<u>3 syll. ads.</u>	<u>3 syll. nouns</u>	<u>3 syll. ads.</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	egotist	orthodox	reticence
content	toroise	unlawful	heretic	edible	lunatic
common	ladder	rebelious	humorist	immodest	collision
luxon	divorce	secular	runaway	specific	lethargy
childish	baseel	malignant	audience	respectful	countryman
flipper	reside	invasive	trickery	sensitive	subcription
upright	author	sporadic	barrier	exultant	pestilence
immare	repair	unwitting	preable	compulsive	midwater
gandy	coaine	tortuous	ogator	bodily	retrospect
colored	alfront	ungainly	alternate	maximum	honesty
blissful	reason	evasive	knave	coious	felony
pungent	recruit	parasalle	terror	correcive	coverlet
faulty	abrs	miserly	eventide	extrinsic	sisterhood
conicious	tanason	ungrateful	foliate	unwholesome	vinegar
bossy	alien	defensive	domino	temperate	rattletrap
younger	wizard	contagious	circumstance	maritime	scutment
needy	epic	impolite	nutsacker	temperate	tornado
tiny	mixture	tangible	rotation	passionate	stimulant
creel	charade	productive	provision	effective	premium
irresome	salade	overland	cabinet	terminal	signature
friendly	collie	fantastic	retirement	almsive	vehicle
triple	namy	illegal	conclusion	orderly	exhibit
sundry	hornwire	mutual	assistance	infinite	impression
zoble	silver	uniform	fantasy	fraternal	formation
fearless	senius	relative	coyoote	marvellous	solitaire
bugas	havoc	sinister	dismissal		



DOUBLE ASSOCIATIONS

<u>1 syll. eds.</u> (intr.)	<u>2 syll. eds.</u>	<u>3 syll. eds.</u> (intr.)	<u>4 syll. eds.</u> (intr.)
white	ragged	almond	levitate
hure	human	medica	disappear
nice	slow	tarry	oscillate
sweet	crabby	collide	endeavor
lace-	cratic	succumb	overhang
thin	quiet	loiter	correspond
late	speechful	sparkle	hesitate
swift	belite	repent	sympathize
blush	modern	elapse	condescend
yawn	sullen	compete	condensate
rich	ready	struggle	hesitate
loud	rise	rebel	disgrace
gay	shallow	arise	justify
round	yellow	concocted	calicific
round-	stirle	relent	justify
trou-	tapere	wither	justify
food	pleasant	chatter	justify
glow	hurry	st. clor	emigrate
numb	snocked	arbear	undulate
dark	deally	labor	interfere
grey	heavy	conquer	to vilize
			stimulate
			contented
			delightful
			elastic
			immortal
			excellent
			decolorate
			vandalous
			indolent
			eventful
			temerous
			unhappy
			envious
			concocted
			toxicative
			rebellious
			rebellious
			inartistic
			ambitious
			harmous
			dejected



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 L. 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.





