

## A STUDY OF ASSOCIATION IN INSANITY.

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### PART II. ASSOCIATION IN INSANE SUBJECTS.

#### § I. GENERAL SURVEY OF PATHOLOGICAL MATERIAL.

The pathological material which forms the basis of the present part of our study consists mainly of two hundred and forty-seven test records obtained for the most part from patients at the Kings Park State Hospital.

The different groups from which the cases were selected, together with the number from each group, are shown in Table I.

TABLE I.

Dementia præcox .....	108 cases.
Paranoic conditions .....	33 "
Epilepsy .....	24 "
General paresis .....	32 "
Manic-depressive insanity .....	32 "
Involitional melancholia .....	8 "
Alcoholic psychoses .....	6 "
Senile dementia .....	4 "

A comparison of our pathological with our normal material *en masse* reveals in the former evidence of a weakening of the normal tendency to respond by common reactions. This is shown in Table II.

TABLE II.

	Common reactions.	Doubtful reactions.	Individual reactions.
1,000 normal subjects .....	91.7%	1.5%	6.8%
247 insane subjects .....	70.7%	2.5%	26.8%

It seems evident from this that pathological significance attaches mainly to individual reactions, so that our study resolves itself largely into (1) an analysis and classification of individual reactions and (2) an attempt to determine what relationship, if any, exists between the different types of reactions and the different clinical forms of mental disease.

## § 2. CLASSIFICATION OF REACTIONS.

Those who have attempted to use the association test in the study of insanity have felt the need of a practical classification of reactions, and have at the same time encountered the difficulty of establishing definite criteria for distinguishing the different groups from one another. It is a comparatively simple matter to make these distinctions in a general way and even to formulate a more or less comprehensive theoretical classification, but there still remains much difficulty in practice. We have made repeated attempts to utilize various systems of classification which involve free play of personal equation in their application. Although for us the matter is greatly simplified by the elimination of all the common reactions with the aid of the frequency tables, we have nevertheless met with no success. The distinctions made by either of us have on no occasion fully satisfied, at the second reading, either the one who made them or the other, while a comparison of the distinctions made by each of us independently has shown a disagreement to the extent of 20—35 per cent.

We sought, therefore, to formulate a classification in which the various groups should be so defined as to obviate the interference of personal equation in the work of applying it, hoping thus to achieve greater accuracy. In this we can lay claim to only partial success; for, in the first place, having satisfactorily defined a number of groups, we found it necessary in the end to provide a special group for unclassified reactions, into which falls more than one-third of the total number of individual reactions; and, in the second place, in at least two of our groups the play of personal equation has not been entirely eliminated, so that there is still a possibility of error to the extent of five per cent of individual reactions, which means approximately one per cent of the total number of reactions. We have found, however, that in spite of these shortcomings the classification here proposed is more serviceable than others which, though more comprehensive, are at the same time lacking in definiteness.

Our classification consists of the following classes, groups and subdivisions:

- I. *Common reactions.*
  - 1. Specific reactions.
  - 2. Non-specific reactions.
- II. *Doubtful reactions.*
- III. *Individual reactions.*
  - 1. Normal reactions.
  - 2. Pathological reactions:
    - A. Derivatives of stimulus words.
    - B. Partial dissociation:
      - (a) Non-specific reactions.
      - (b) Sound reactions:
        - $\alpha$ . Words.
        - $\beta$ . Neologisms.
      - (c) Word complements.
      - (d) Particles of speech.
    - C. Complete dissociation:
      - (a) Perseveration:
        - $\alpha$ . Association to preceding stimulus.
        - $\beta$ . Association to preceding reaction.
        - $\gamma$ . Repetition of preceding stimulus.
        - $\delta$ . Repetition of previous stimulus.
        - $\epsilon$ . Repetition of preceding reaction.
        - $\zeta$ . Repetition of previous reaction.
        - $\eta$ . Reaction repeated five times (stereotypy).
      - (b) Neologisms without sound relation.
  - 3. Unclassified.

### § 3. NON-SPECIFIC REACTIONS; DOUBTFUL REACTIONS.

**Non-specific Reactions.**—It has already been intimated that common reactions are in the vast majority of instances to be regarded as normal. From amongst them, however, a fairly definite group can be separated out which seems to possess some pathological significance, namely, the group which we have termed non-specific.

In this group are placed words which are so widely applicable as to serve as more or less appropriate reactions to almost any of our stimulus words. That such reactions are in value inferior to the remaining group of common reactions, which we have termed, in contradistinction, *specific reactions*, is perhaps sufficiently obvious; we shall speak later, however, of their occurrence in both normal and insane cases.

It is not always easy to judge whether or not a given reaction should be classed as non-specific. A study of our material made with special reference to this type of reactions has enabled us to select the following list of words, any of which, occurring in response to any stimulus word, is classed as a non-specific reaction :

article, articles  
bad  
beautiful, beauty  
fine  
good, goodness  
great  
happiness, happy  
large  
man  
necessary, necessity  
nice  
object (noun)  
people  
person  
pleasant, pleasantness, pleasing, pleasure  
pretty  
small  
thinking, thought, thoughts  
unnecessary  
unpleasant  
use, used, useful, usefulness, useless, uselessness, uses, using  
woman  
work

It should be mentioned that some of these words occur as reactions to one or several stimulus words with such frequency (*citizen—man*, value 27.8 per cent ; *health—good*, value 9.4 per cent) as to acquire in such instances a value as high as that of strictly specific reactions.

**Doubtful Reactions** have already been defined (p. 40) : any reaction word which is not found in the table in its identical form, but which is a grammatical variant or derivative of a word found there, is placed in this group.

§ 4. INDIVIDUAL REACTIONS; EXPLANATION OF GROUPS AND METHODS OF APPLICATION.

**Normal Reactions.**—Inasmuch as the frequency tables do not exhaust all normal possibilities of reaction, a certain number of reactions which are essentially normal are to be found among the individual reactions. In order to separate these from the pathological reactions, we have compiled an appendix to the frequency tables, consisting mainly of specific definitions of groups of words to be included under each stimulus word in our list. This appendix will be found at the end of this paper.

A word of explanation is perhaps due as to the manner in which the appendix has been compiled. It was developed in a purely empirical way, the basis being such individual reactions, given by both normal and insane subjects, as seemed in our judgment to be obviously normal.

It must be acknowledged that the appendix falls short of all that might be desired. In the first place, its use involves to some slight extent the play of personal equation, and it therefore constitutes a source of error; in the second place, it is in some respects too inclusive while in other respects it is not sufficiently so. However, the error due to personal equation is slight; the inclusion of certain "far-fetched" or even frankly pathological reactions may be discounted by bearing in mind that the general value of this group is not equal to that of the group of common reactions; and the number of strictly normal reactions which are not included is after all small. Our experience has shown us that the appendix constitutes an important aid in the analysis of individual reactions.

**Pathological Reactions. Derivatives of Stimulus Words.**—We place here any reaction which is a grammatical variant or derivative of a stimulus word. The tendency to give such reactions seems to be dependent upon a suspension or inhibition of the normal process by which the stimulus word excites the production of a new concept, for we have here not a production of a new concept but a mere change in the form of the stimulus word. As examples of such reactions may be mentioned: *eating*—*eatables*, *short*—*shortness*, *sweet*—*sweetened*, *quiet*—*quietness*.

**Partial Dissociation.**—We have employed the term dissociation to indicate a rupture of that bond—whatever be its nature—

which may be supposed to exist normally between stimulus and reaction and which causes normal persons to respond in the majority of instances by common reactions. And we speak of partial dissociation where there is still an obvious, though weak and superficial, connection. Under this heading we can differentiate four types:

**Non-specific Reactions** have already been defined; we distinguish those in this class from those in the class of common reactions by means of the frequency tables.

**Sound Reactions.**—This type requires no explanation; the main difficulty is to decide what degree of sound similarity between stimulus and reaction should be deemed sufficient for placing a reaction under this heading. The total number of different sounds used in language articulation is, of course, small, so that any two words are liable to present considerable chance similarity. Some time ago we estimated the average degree of sound similarity between stimulus words and reaction words in a series of one hundred test records obtained from normal persons; we found that on the average 14.53 per cent of the sounds of the stimulus words were reproduced, in the same order, in the reaction word. Our experience finally led us to adopt the following general rule: A reaction is to be placed under this heading when fifty per cent of the sounds of the shorter word of the pair are identical with sounds of the longer word and are ranged in the same order.

Among sound reactions we occasionally find **neologisms**; for these a separate heading is provided. Possibly their occurrence may be taken as an indication of an exaggerated tendency to respond by sound reactions.

**Word Complements.**—Here we include any reaction which, added to the stimulus word, forms a word, a proper name, or a compound word in common use.

**Particles of Speech.**—Under this heading we include articles, numerals, pronouns, auxiliary verbs, adverbs of time, place and degree, conjunctions, prepositions, and interjections.

**Complete Dissociation.**—Here are included reactions which appear to be entirely unrelated to the corresponding stimulus words; in the case of such reactions the stimulus words seem to act, as Aschaffenburg has pointed out, merely as signals for discharge. This subdivision contains several types of reactions which seem to be dependent upon the phenomenon of perseveration; it contains also the rather important type of neologisms.

The phenomenon of **perseveration** occurs in cases in which one may observe an abnormal immobility of attention. To react normally to a series of stimulus words requires on the part of the subject, in the first place, a certain alertness in order that he may grasp quickly and clearly the meaning of each word, and, in the second place, a prompt shifting of the mind from one reaction to the next. When such mental mobility is lacking the subject is liable to react not by a response adjusted to the stimulus word, but either by repeating a previous stimulus or reaction, or by giving a word associated to the preceding stimulus or reaction.

The names of the different types of reactions included under the heading of perseveration are sufficiently descriptive; we shall here refer only to those which require further definition.

**Association to Preceding Stimulus.**—Here is placed any reaction that is shown by the frequency tables to be related to the stimulus preceding the one in question. Seeming or even obvious relationship, if not established by reference to the frequency tables, is disregarded. In the tables, however, the combination may not exist in direct order but only in reverse order, in which case the reaction is included here. The following examples may serve as illustrations:

*thief—night*

*lion—pocket-book*

*Lion—pocket-book* is not found in the frequency tables, and is, therefore, an individual reaction; *thief—pocket-book*, however, is found there; *pocket-book* is, therefore, classed in this case as an association to preceding stimulus.

*table—fork*

*dark—mutton*

*Dark—mutton* is not found in the frequency tables; *table—mutton* is also not found there in the direct order, but is found in the reverse order, viz.: *mutton—table*; *mutton* is, therefore, classed in this case as an association to preceding stimulus.

**Association to Preceding Reaction.**—If either the reaction in question or the preceding reaction happens to be one of the stimulus words in our list, and a relationship between the two be found to exist by reference to the frequency tables—whether in direct or in reverse order—the reaction in question is classed as

an association to preceding reaction. This is illustrated by the following examples:

*eating—table*  
*mountain—floor*

*Mountain—floor* is an individual reaction; *table—floor* is found in the frequency tables; *floor* is, therefore, classed as an association to preceding reaction.

*beautiful—flowers*  
*window—red*

*Window—red* is an individual reaction; *red—flowers* is found in the frequency tables; therefore, *red* is classed as an association to preceding reaction.

In cases in which neither the reaction in question nor the preceding reaction happens to be one of our stimulus words, but a relationship between them may be judged to exist without considerable doubt, the reaction in question is also classed here. Example:

*priest—father*  
*ocean—mother*

*Ocean—mother* is an individual reaction; neither the word *father* nor the word *mother* is among our stimulus words; but the association between the words *father* and *mother* may be judged to exist without considerable doubt; therefore, in this case *mother* is classed as an association to preceding reaction.

In such cases as this personal equation must necessarily come into play; comparative uniformity of judgment may, however, be attained by systematically excluding any reaction the relationship of which to the preceding reaction is subject to any considerable doubt and by placing any such reaction in the unclassified group.

**Repetition of Previous Stimulus.**—Here we place any reaction which is a repetition of any previous stimulus from amongst the ten next preceding, at the same time placing **repetition of preceding stimulus** under a separate heading.

**Neologisms.**—Here we place the newly coined words, so commonly given by the insane, excepting such as possess a sound relationship to the stimulus word, for which, as already stated, a special place in the classification has been provided.



Neologisms might be divided into three types, as follows: (1) those which arise from ignorance of language (*comfort—uncomfort, short—diminiature*); (2) distortions of actual words, apparently of pathological origin and not due to ignorance (*hungry—foodation, thief—dissteal*); and (3) those which seem to be without any meaning whatever (*scack, gehimper, hanrow, dicut*). It is, however, impossible to draw clear-cut distinctions between these types, and for this reason we have made no provision in our classification for such division.

**Unclassified Reactions.**—This group is important, in the first place, because it is numerically a large one, and in the second place, because it contains certain fairly definite types of reactions which are placed here for the sole reason that we have not been able to find strictly objective criteria for their differentiation from other types.

It has already been stated that the frequency tables, even together with the appendix, fail to exhaust all normal possibilities of association, so that a certain small number of perfectly normal reactions must fall into the unclassified group. We submit the following examples:

*music—listen*  
*smooth—suave*  
*sour—curdled*  
*earth—mound*

Another type of reactions found in the unclassified group, though also normal, yet not obviously so until explained by the subject, is represented by those which originate from purely personal experiences, such as the following, given by normal subjects:

*blossom—T . . . .*  
*hammer—J . . . .*

The first of these reactions is explained by the subject's acquaintance with a young lady, Miss T . . . ., who has been nicknamed "Blossom," and the second is explained by the subject's having among her pupils at school a boy by the name of J . . . . Hammer.

It would be difficult to estimate the proportion of such reactions in the unclassified group, but we have gained the general

impression that it is small. An attempt to place them in a separate group could be made only with the aid of explanations from the subjects; such aid in the case of insane subjects is generally unreliable. Moreover, to class these reactions as strictly normal would perhaps be going too far, since their general value is obviously inferior to that of the common reactions; and in any case in which they are given in unusually large numbers they must be regarded as manifestation of a tendency to depart from the normal to the extent to which they displace common reactions.

The next type of reactions met with in the unclassified group is characterized by a peculiarly superficial, or non-essential, or purely *circumstantial* relationship to the stimulus. Such reactions, though occasionally given by normal subjects, are more often given by insane ones, and seem to be somewhat characteristic of states of mental deterioration which are clinically rather loosely described as puerilism. We offer the following examples, given by normal subjects:

*music—town*  
*sickness—summer*  
*child—unknown*  
*house—enter*

Still another type of reactions to be considered in this connection consists of words which are in no way related to the corresponding stimulus words, but which arise from *distraction* of the subject by surrounding objects, sounds, and the like. In some cases the experimenter may be able to judge from the direction of the subject's gaze, from a listening attitude, and so on, that certain reactions are due to distraction. In other cases, particularly in cases of normal subjects, the fact that certain reactions are due to distraction may be determined by questioning the subject on this point immediately after making the test. In work with insane subjects, as we have several times had occasion to point out, such aid is generally not available.

The group of unclassified reactions includes also one more type of reactions which are of great importance both numerically and otherwise. These are the **incoherent reactions**, that is to say, reactions which are determined neither by the stimulus words, nor by the agency of perseveration, nor by distraction.

Although the occurrence of incoherent reactions is hardly subject to doubt, yet in no instance is it possible to establish with certainty that a given reaction is of this type, for in no instance can a remote, or an imagined, or a merely symbolic relationship between stimulus and reaction be positively excluded. Some, indeed, would assert that some such relationship must necessarily exist in every instance, at least in the domain of the subconscious. This circumstance necessitates the placing of this type of reactions in the unclassified group.

In practice it may be found advisable in some cases to analyze the unclassified reactions with a view to ascertaining to what extent each of the various types is represented among them. But one here treads on slippery ground, and one must be continually warned against the danger of erroneous conclusions.

#### § 5. ORDER OF PREFERENCE.

After having developed the classification here proposed we found that there was still considerable room for difference of opinion in the placing of many reactions, owing to the circumstance that in many cases a reaction presents features which render it assignable under any one of two or more headings. To leave the matter of preference in grouping to be decided in each case according to the best judgment of the experimenter would mean introducing again the play of personal equation, and would thus court failure of all our efforts to accomplish a standardization of the association test. Therefore, the necessity of establishing a proper order of preference for guidance in the application of the classification became to us quite apparent.

In the arrangement of the order of preference we were guided mainly by two principles, namely: (1) as between two groups of unequal definition, the one which is more clearly defined and which, therefore, leaves less play for personal equation is to be preferred; (2) as between two groups of equal definition, the one which possesses the greater pathological significance is to be preferred. In accordance with these principles we have adopted the order of preference shown in Table III., placing every reaction under the highest heading on the list under which it may be properly classed.

TABLE III.

1. Non-specific (common).
2. Doubtful reactions.
- INDIVIDUAL REACTIONS.
3. Sound reactions (neologisms).
4. Neologisms without sound relation.
5. Repetition of preceding reaction.
6. Reaction repeated five times.
7. Repetition of preceding stimulus.
8. Derivatives.
9. Non-specific reactions.
10. Sound reactions (words).
11. Word complements.
12. Particles of speech.
13. Association to preceding stimulus.
14. Association to preceding reaction (by frequency tables).
15. Repetition of previous reaction.
16. Repetition of previous stimulus.
17. Normal (by appendix).
18. Association to preceding reaction (without frequency tables).
19. Unclassified.

#### § 6. ERRORS INVOLVED IN THE USE OF ARBITRARY OBJECTIVE STANDARDS.

It may readily be seen that such definiteness and uniformity as this classification possesses results from the introduction of more or less arbitrary criteria for the differentiation of the various types of reactions. The question might arise, To what extent do the distinctions thus made correspond to reality? To consider, for instance, our rule for the placing of sound reactions (50 per cent of the sounds of the shorter word to be present, in the same order, in the other word) : when a given reaction (*man—minstrel*) is in accordance with the rule assigned under the heading of sound reactions, can it be assumed that sound similarity and not some other relationship is the determining factor of the association in question? Or when in a given instance (*cabbage—cobweb*) the sound similarity falls somewhat short of the standard required by the rule, can it be assumed that sound similarity is not, after all, the determining factor?

Similar questions may, of course, arise in connection with other subdivisions.

It must, indeed, be conceded that objective methods can reveal but indirectly and with uncertainty the inner mechanism which produces any association and that in any given instance it would be impossible to establish the correctness of grouping in accordance with such methods. However, to decide that question for any given reaction is really not necessary in practice, since an error

made through wrongly placing one, two, or three reactions under any heading is of no significance; the types acquire importance only when represented by large numbers in a record under consideration; and when many reactions fall under a single heading the likelihood of error, as affecting the record as a whole, is by that fact alone greatly reduced.

The whole question might more profitably be approached from another point of view: To what extent are the distinctions of this classification useful? An answer to this question can be found only in the results.

#### § 7. ANALYSIS OF PATHOLOGICAL MATERIAL.

We present in Table IV. the results of a statistical examination of the records obtained from certain groups of normal subjects and from some groups of insane subjects.

The normal groups have been studied for the purpose of determining the frequency and manner of occurrence among normal subjects of the various types of abnormal reactions. It seemed best for this purpose to consider separately the records of those subjects who gave an unusually large number of individual reactions. Fifty-three records containing fifteen or more individual reactions were found after a fairly diligent search among our normal test records. In the other groups of subjects—persons of common school education, persons of collegiate education, and children—we included no records containing more than ten individual reactions.

The more striking departures from average normal figures are indicated in the table by the use of heavy type.

This table reveals some special associational tendencies as occurring in connection with the psychoses studied. A better insight into the nature of these tendencies can be gained by a special analysis of the test records of each clinical group.

#### DEMENTIA PRÆCOX.

In this psychosis we find the average number of individual reactions far exceeding not only that of the normal but also that of any other psychosis which we have studied. To a corresponding extent we find the average number of the highest type of normal reactions—the common specific reactions—reduced.

While almost every type of individual reactions shows here an

TABLE IV.

	86 normal subjects, common school education; records containing not over 10 individual reactions.			66 normal subjects, collegiate education; records containing not over 10 individual reactions.			48 normal subjects, school children; records containing not over 10 individual reactions.			53 normal subjects; records containing 15 individual reactions.			108 cases of dementia praecox.			33 cases of paranoic conditions.			24 cases of epilepsy.			32 cases of general paresis.			32 cases of manic-depressive insanity.		
	Median per cent of all reactions.	Average per cent of individual reactions.	Median per cent of all reactions.	Average per cent of individual reactions.	Median per cent of all reactions.	Average per cent of individual reactions.	Median per cent of all reactions.	Average per cent of individual reactions.	Median per cent of all reactions.	Average per cent of individual reactions.	Median per cent of all reactions.	Average per cent of individual reactions.	Median per cent of all reactions.	Average per cent of individual reactions.	Median per cent of all reactions.	Average per cent of individual reactions.	Median per cent of all reactions.	Average per cent of individual reactions.	Median per cent of all reactions.	Average per cent of individual reactions.	Median per cent of all reactions.	Average per cent of individual reactions.	Median per cent of all reactions.	Average per cent of individual reactions.	Median per cent of all reactions.	Average per cent of individual reactions.	
<i>Common reactions:</i>																											
Specific reactions.....	90 89.8	4 4.9	90 89.7	8 6.3	91 89.4	8 6.3	72 71.4	3 4.8	68 58.9	3 4.2	82 71.8	4 4.8	71 63.7	5 6.0	73 71.8	4 6.3	73 71.8	4 6.3	80 71.2	3 4.6	80 71.2	3 4.6	80 71.2	3 4.6	80 71.2	3 4.6	
Non-specific reactions.....	1 1.1	1 0.6	1 0.6	0 0.7	1 0.6	0 0.7	2 2.3	2 2.3	2 2.5	2 2.5	2 3.0	2 3.0	3 3.0	3 3.0	2 2.2	2 2.2	2 2.2	2 2.2	2 3.0	2 3.0	2 3.0	2 3.0	2 3.0	2 3.0	2 3.0	2 3.0	
<i>Doubtful reactions:</i>																											
<i>Individual reactions:</i>																											
Normal reactions.....	2 1.8	41.8	1 1.8	35.3	1 1.6	42.0	7 7.3	33.4	4 4.8	13.9	8 3.5	16.3	23 3.4	12.6	8 3.6	17.4	8 3.6	17.4	4 5.3	24.8	4 5.3	24.8	4 5.3	24.8	4 5.3	24.8	
Derivatives of stimulus words.....	0 0.01	0.8	0 0.02	0.3	0 0.2	5.3	0 0.04	0.2	0 0.16	0.48	0 0.30	0.40	0 0.4	1.7	0 0.5	2.4	0 0.5	2.4	0 0.23	1.0	0 0.19	0.8	0 0.19	0.8	0 0.19	0.8	
Non-specific reactions.....	0 0.1	3.8	0 0.1	1.2	0 0.2	5.3	0 0.1	0.5	0 0.53	1.7	0 1.6	1.7	0 0.54	2.0	0 0.54	2.0	0 0.54	2.0	0 0.23	1.0	0 0.19	0.8	0 0.19	0.8	0 0.19	0.8	
Sound reactions (words).....	0 0.08	1.9	0 0.05	0.9	0 0.0	0	0 0.11	0.5	1 1.83	4.7	0 0.69	0.4	0 0.7	1.6	0 0.7	1.6	0 0.7	1.6	0 0.23	1.0	0 0.19	0.8	0 0.19	0.8	0 0.19	0.8	
Sound reactions (neologisms).....	0 0.01	0.3	0 0.03	0.3	0 0.0	0	0 0.08	0.3	0 0.07	0.3	0 0.03	0.1	0 0.08	0.2	0 0.08	0.2	0 0.08	0.2	0 0.03	0.1	0 0.03	0.1	0 0.03	0.1	0 0.03	0.1	
Word complements.....	0 0.01	0.3	0 0.03	0.3	0 0.06	1.6	0 0.08	0.3	0 0.06	0.3	0 0.03	0.1	0 0.08	0.2	0 0.03	0.1	0 0.03	0.1	0 0.03	0.1	0 0.03	0.1	0 0.03	0.1	0 0.03	0.1	
Particles of speech.....	0 0.09	2.2	0 0.06	1.2	0 0.04	1.0	0 0.09	0.4	0 0.93	2.7	0 0.49	2.2	0 0.49	2.2	0 0.49	2.2	0 0.49	2.2	0 0.49	2.2	0 0.49	2.2	0 0.49	2.2	0 0.49	2.2	
Association to preceding stimulus.....	0 0.06	1.4	0 0.06	1.2	0 0.04	1.0	0 0.09	0.4	1 1.29	3.8	0 0.49	2.0	0 0.93	2.7	0 0.93	2.7	0 0.93	2.7	0 0.49	2.0	0 0.49	2.0	0 0.49	2.0	0 0.49	2.0	
Association to preceding reaction.....	0 0.0	0	0 0.03	0.3	0 0.0	0	0 0.0	0	0 0.03	0.2	0 0.0	0	0 0.02	0.1	0 0.02	0.1	0 0.02	0.1	0 0.0	0	0 0.0	0	0 0.0	0	0 0.0	0	
Repetition of preceding stimulus.....	0 0.0	0	0 0.03	0.3	0 0.0	0	0 0.02	0.1	0 0.12	0.4	0 0.10	0.4	0 0.12	0.4	0 0.12	0.4	0 0.12	0.4	0 0.23	1.0	0 0.19	0.8	0 0.19	0.8	0 0.19	0.8	
Repetition of previous stimulus.....	0 0.0	0	0 0.03	0.3	0 0.02	0.5	0 0.08	0.3	1 1.15	3.4	0 0.10	0.4	0 0.12	0.4	0 0.12	0.4	0 0.12	0.4	0 0.23	1.0	0 0.19	0.8	0 0.19	0.8	0 0.19	0.8	
Repetition of preceding reaction.....	0 0.21	4.7	0 0.21	6.8	0 0.23	5.8	0 0.32	4.2	2 2.72	7.9	1 1.07	1.1	0 1.16	1.4	0 1.16	1.4	0 1.16	1.4	0 0.87	4.2	0 0.87	4.2	0 0.87	4.2	0 0.87	4.2	
Repetition of previous reaction.....	0 0.0	0	0 0.03	0.9	0 0.08	2.1	0 0.32	1.5	0 1.52	4.4	0 0.32	1.5	0 0.32	1.5	0 0.32	1.5	0 0.32	1.5	0 0.32	1.5	0 0.32	1.5	0 0.32	1.5	0 0.32	1.5	
Reaction repeated five times.....	0 0.0	0	0 0.0	0	0 0.02	0.1	0 0.02	0.1	0 1.90	5.5	0 0.31	2.7	0 0.31	2.7	0 0.31	2.7	0 0.31	2.7	0 0.31	2.7	0 0.31	2.7	0 0.31	2.7	0 0.31	2.7	
Neologisms without sound relation.....	2 1.8	43.4	2 2.5	50.3	1 1.5	39.4	11 11.1	61.2	11 16.3	47.3	6 9.3	43.5	6 7.7	28.5	6 7.7	28.5	6 7.7	28.5	6 5.9	28.4	6 5.9	28.4	6 5.9	28.4	6 5.9	28.4	
Unclassified.....	4 4.2	....	5 5.1	....	4 3.9	....	21 21.8	....	24 34.3	....	10 21.3	....	19 27.2	....	14 20.8	....	14 20.8	....	11 21.5	....	11 21.5	....	11 21.5	....	11 21.5	....	
Total individual reactions.....	4 4.2	....	5 5.1	....	4 3.9	....	21 21.8	....	24 34.3	....	10 21.3	....	19 27.2	....	14 20.8	....	14 20.8	....	11 21.5	....	11 21.5	....	11 21.5	....	11 21.5	....	

## TYPES OF REACTIONS.

increase over the normal averages, the most striking increases are shown by the table to be in the groups of unclassified reactions, neologisms, sound reactions, and some types of perseveration. A further examination of the individual test records shows that there is no uniformity of associational tendencies in this clinical group, but that several tendencies are more or less frequently met with either alone or in various combinations. Yet some of these tendencies, when appearing at all prominently, are so highly characteristic of dementia præcox as to be almost pathognomonic. Among these may be mentioned: (1) the tendency to give *neologisms*, particularly those of the senseless type; (2) the tendency to give unclassified reactions largely of the *incoherent* type; and (3) the tendency toward *stereotypy* manifested chiefly by abnormally frequent repetitions of the same reaction. Fairly characteristic also is the occasional tendency to give sound reactions. Again, occasionally one encounters pronounced *perseveration*, and at least two of our subjects gave a good many unclassified reactions obviously due to *distraction*.

It must be noted that not infrequently cases of dementia præcox give test records that cannot be distinguished from normal. It seems that the pathological associational tendencies constitute merely a special group of symptoms, some of which may be expected to be manifest in cases which have reached a state of advanced mental deterioration, but may not necessarily be present in the early stages of the disease. On the other hand there is evidence to show that these tendencies may in some cases appear among the earliest manifestations. This matter will be referred to again.

Thus the test records of dementia præcox depart from the normal not sharply but by a gradual shading off. We find similar gradual transitions between dementia præcox and other psychoses. For this work we selected cases in which the diagnoses were established with reasonable certainty. Whether or not in cases of doubtful clinical classification this association test may be of aid in determining the diagnosis, is a question that must for the present remain open.

We submit herewith copies of test records. The numbers which appear after the reactions indicate in each case the reaction type, in accordance with Table III. (p. 328); common specific reactions are not numbered.

CASE No. 4752.—H. J. Neologisms; some unclassified reactions, mostly incoherent.

Table—meadow .....	19	Needle—himper .....	4	Ocean—himmer .....	4
Dark—black .....		Red—gumper .....	4	Head—hiniper .....	4
Music—sweet .....		Sleep—moop .....	4	Stove—gamper .....	4
Sickness—dead .....	2	Anger—rumble .....	19	Long—humble .....	19
Man—manion .....	3	Carpet—slamper .....	4	Religion—gumper .....	4
Deep—near .....	19	Girl—hinker .....	4	Whiskey—numper .....	4
Soft—sooner .....	19	High—humper .....	4	Child—himmer .....	4
Eating—formble .....	4	Working—gumpip .....	4	Bitter—gehimper .....	3
Mountain—gair .....	4	Sour—imper .....	4	Hammer—gueep .....	4
House—temble .....	4	Earth—gumper .....	4	Thirsty—humper .....	4
Black—benched .....	4	Trouble—humper .....	4	City—deeper .....	19
Mutton—ranchd .....	4	Soldier—guipper .....	4	Square—hummer .....	4
Comfort—bumble .....	4	Cabbage—phar .....	4	Butter—bimper .....	3
Hand—semble .....	4	Hard—her .....	12	Doctor—harner .....	4
Short—simber .....	4	Eagle—damnornott .....	4	Loud—harner .....	4
Fruit—narrow .....	13	Stomach—dumper .....	4	Thief—himmer .....	4
Butterfly—Ben .....	19	Stem—gumper .....	4	Lion—humor .....	19
Smooth—gum .....	19	Lamp—huntnit .....	4	Joy—gumpier .....	4
Command—bramble .....	19	Dream—hungnot .....	4	Bed—hoomer .....	4
Chair—low .....		Yellow—bampir .....	4	Heavy—doomer .....	4
Sweet—temper .....	19	Bread—gumper .....	4	Tobacco—per .....	12
Whistle—bensid .....	4	Justice—sidnerber .....	4	Baby—hoomer .....	4
Woman—hummary .....	4	Boy—eeper .....	4	Moon—gumper .....	4
Cold—gunst .....	4	Light—huntnit .....	4	Scissors—gumper .....	4
Slow—bemper .....	4	Health—geeper .....	4	Quiet—humper .....	4
Wish—tip .....	19	Bible—himper .....	4	Green—gueet .....	3
River—gumper .....	4	Memory—hummer .....	19	Salt—rummer .....	4
White—Andes .....	19	Sheep—hunner .....	4	Street—numper .....	4
Beautiful—gimper .....	4	Bath—bennitper .....	4	King—himper .....	4
Window—hummer .....	4	Cottage—gumper .....	4	Cheese—guinter .....	4
Rough—geep .....	4	Swift—dumper .....	4	Blossom—yunger .....	4
Citizen—humper .....	4	Blue—dipper .....	19	Afraid—yunger .....	4
Foot—zuper .....	4	Hungry—hummer .....	3		
Spider—gumper .....	4	Priest—rump .....	19		

CASE No. 5183.—G. D. Neologisms; numerous unclassified reactions, mostly incoherent; some sound neologisms.

Table—muss .....	19	Needle—cast .....	15	Ocean—men .....	19
Dark—gone .....	19	Red—Roman .....	19	Head—will .....	19
Music—caffa .....	4	Sleep—scack .....	4	Stove—somen .....	4
Sickness—monk .....	19	Anger—gois .....	4	Long—lass .....	19
Man—boy .....		Carpet—noise .....	18	Religion—cor .....	4
Deep—lesson .....	19	Girl—call .....	18	Whiskey—hanrow .....	4
Soft—ness .....	4	High—hort .....	4	Child—vand .....	4
Eating—pie .....		Working—kafir .....	19	Bitter—bike .....	15
Mountain—Gus .....	19	Sour—romescotters .....	4	Hammer—hemmel .....	3
House—muss .....	15	Earth—bell .....	19	Thirsty—cass .....	4
Black—court .....	19	Trouble—tramine .....	4	City—cor .....	4
Mutton—beef .....		Soldier—gas .....	19	Square—malice .....	19
Comfort—ness .....	4	Cabbage—cor .....	4	Butter—back .....	19
Hand—koy .....	4	Hard—kalbas .....	4	Doctor—ness .....	4
Short—ness .....	4	Eagle—bell .....	15	Loud—arman .....	4
Fruit—dalb .....	4	Stomach—chenic .....	4	Thief—cast .....	15
Butterfly—flack .....	4	Stem—trackstar .....	3	Lion—loss .....	15
Smooth—mess .....	19	Lamp—loss .....	19	Joy—kafir .....	15
Command—cork .....	19	Dream—melso .....	4	Bed—banrow .....	4
Chair—ness .....	4	Yellow—ormondo .....	4	Heavy—cast .....	15
Sweet—Bess .....	17	Bread—life .....		Tobacco—colrow .....	4
Whistle—toy .....		Justice—quartz .....	19	Baby—boil .....	19
Woman—girl .....		Boy—nellan .....	4	Moon—padoc .....	4
Cold—cork .....	15	Light—cor .....	4	Scissors—kantow .....	4
Slow—mass .....	19	Health—hallenbee .....	4	Quiet—kilroe .....	4
Wish—vell .....	4	Bible—book .....		Green—graft .....	10
River—mouth .....	17	Memory—bike .....	19	Salt—semen .....	19
White—cast .....	17	Sheep—armen .....	4	Street—pess .....	4
Beautiful—ness .....	4	Bath—cor .....	4	King—guess .....	19
Window—crow .....	19	Cottage—callan .....	4	Cheese—tiffer .....	4
Rough—ratter .....	19	Swift—awar .....	3	Blossom—cad .....	19
Citizen—side .....	4	Blue—blacksen .....	4	Afraid—mellows .....	19
Foot—malloy .....	4	Hungry—scatterbuck .....	4		
Spider—straw .....	19	Priest—canon .....	17		



CASE No. 1500.—D. V. Considerable number of neologisms; stereotypy manifested partly in a tendency toward frequent repetition of certain reactions but mainly in a persistent tendency to make use of the grammatical form of present participle, giving rise to numerous doubtful reactions.

Table—stand .....	Needle—stinging .....	2	Ocean—moving .....	2
Dark—lonesome .....	Red—coloring .....		Head—setting .....	15
Music—playing .....	Sleep—dreaming .....		Stove—warm .....	2
Sickness—disease .....	Anger—widing .....	4	Long—slowly .....	2
Man—hiding .....	Carpet—cleaning .....		Religion—everything .....	19
Deep—unreckless .....	Girl—pretty .....	1	Whiskey—burning .....	
Soft—beginning .....	High—degrace .....	4	Child—born .....	
Eating—plenty .....	Working—nobody .....	19	Bitter—taking .....	19
Mountain—high .....	Sour—holling .....	4	Hammer—hitting .....	2
House—standing .....	Earth—disgrace .....	19	Thirsty—drinking .....	
Black—grivelling .....	Trouble—plenty .....		City—welldebell .....	4
Mutton—plenty .....	Soldier—shooting .....	13	Square—taking .....	15
Comfort—laying .....	Cabbage—welldebell .....	4	Butter—soft .....	
Hand—disease .....	Hard—caming .....	4	Doctor—instrument .....	19
Short—writing .....	Eagle—setting .....	19	Loud—speaking .....	2
Fruit—coming .....	Stomach—degrivel .....	4	Thief—gitting .....	4
Butterfly—flying .....	Stem—biting .....	19	Lion—scared .....	17
Smooth—glimming .....	Lamp—burning .....		Joy—playing .....	2
Command—master .....	Dream—walking .....	19	Bed—laying .....	2
Chair—standing .....	Yellow—blowing .....	15	Heavy—raisen .....	4
Sweet—sugar .....	Bread—making .....		Tobacco—eating .....	19
Whistle—blowing .....	Justice—unpossible .....	4	Baby—born .....	
Woman—loving .....	Boy—growing .....	2	Moon—shining .....	
Cold—cellar .....	Light—stand .....	6	Scissors—cutting .....	
Slow—coming .....	Health—raising .....	19	Quiet—hitting .....	15
Wish—dreaming .....	Bible—teaching .....	2	Green—landed .....	19
River—divided .....	Memory—together .....	12	Salt—throwing .....	19
White—wall .....	Sheep—weeding .....	19	Street—walking .....	
Beautiful—pleasant .....	Bath—held .....	19	King—tension .....	19
Window—breaking .....	Cottage—standing .....	2	Cheese—eating .....	
Rough—tumble .....	Swift—incuriosable .....	4	Blossom—growing .....	2
Citizen—gentleman .....	Blue—smooven .....	4	Afraid—nobody .....	
Foot—sweating .....	Hungry—uncareless .....	4		
Spider—biting .....	Priest—going .....	19		

CASE No. 5138.—C. J. Unclassified reactions, mostly incoherent.

Table—tablecloth .....	Needle—lifter .....	19	Ocean—waves .....	
Dark—forward .....	Red—dove .....	19	Head—black .....	
Music—instrument .....	Sleep—coat .....	13	Stove—lid .....	
Sickness—fluid .....	Anger—smile .....	19	Long—short .....	
Man—hemale .....	Carpet—gas .....	19	Religion—Christian .....	
Deep—steep .....	Girl—kite .....	19	Whiskey—malt .....	
Soft—hard .....	High—cow .....	19	Child—baby .....	
Eating—mountain .....	Working—candy .....	19	Bitter—sweet .....	
Mountain—raven .....	Sour—peach .....	17	Hammer—nail .....	
House—shutter .....	Earth—balloon .....	19	Thirsty—water .....	
Black—blue .....	Trouble—grass .....	13	City—steeple .....	19
Mutton—beef .....	Soldier—brass .....	17	Square—marble .....	19
Comfort—discomfort .....	Cabbage—flea .....	19	Butter—bread .....	
Hand—wrist .....	Hard—cat .....	19	Doctor—aster .....	19
Short—tall .....	Eagle—negro .....	10	Loud—fog .....	19
Fruit—vegetable .....	Stomach—winter .....	19	Thief—Mary .....	19
Butterfly—bee .....	Stem—leaf .....		Lion—tiger .....	
Smooth—rough .....	Lamp—cloth .....	19	Joy—glad .....	
Command—orders .....	Dream—alumber .....		Bed—sheet .....	
Chair—sofa .....	Yellow—pink .....		Heavy—light .....	
Sweet—sour .....	Bread—glass .....	19	Tobacco—smoke .....	
Whistle—ffe .....	Justice—coal .....	19	Baby—powder .....	
Woman—girl .....	Boy—maid .....		Moon—sky .....	
Cold—warm .....	Light—shine .....		Scissors—handle .....	
Slow—faster .....	Health—pale .....	17	Quiet—sing .....	19
Wish—not .....	Bible—leaf .....		Green—pink .....	
River—neck .....	Memory—grief .....	19	Salt—chimney .....	19
White—blue .....	Sheep—giraffe .....		Street—block .....	
Beautiful—homely .....	Bath—soap .....		King—crown .....	
Window—sill .....	Cottage—scene .....	19	Cheese—tea .....	17
Rough—paint .....	Swift—alow .....		Blossom—leaves .....	
Citizen—pedestrian .....	Blue—piece .....	19	Afraid—frighten .....	
Foot—rose .....	Hungry—food .....			
Spider—towel .....	Priest—minister .....			

## CASE No. 17979.—R. T. Unclassified reactions, mostly incoherent.

Table—full .....	19	Needle—point .....	19	Ocean—supply .....	19
Dark—coldness .....	2	Red—temperature .....	15	Head—manager .....	17
Music—astronaut .....	19	Sleep—rest .....	19	Stove—shake .....	19
Sickness—better .....	19	Anger—temper .....	19	Long—journey .....	19
Man—extension .....	19	Carpet—court .....	10	Religion—thought .....	1
Deep—electrician .....	19	Girl—birth .....	10	Whiskey—lusk .....	4
Soft—harden .....	2	High—dirt .....	19	Child—wish .....	15
Eating—stomach .....	19	Working—ease .....	19	Bitter—enmalseladiga ..	4
Mountain—Lord .....	19	Sour—balt .....	4	Hammer—efface .....	19
House—roof .....	19	Earth—vexation .....	19	Thirsty—want .....	19
Black—darkness .....	19	Trouble—business .....	19	City—comforts .....	15
Mutton—working .....	19	Soldier—obedient .....	2	Square—crown .....	19
Comfort—ahead .....	12	Cabbage—fell .....	19	Butter—flavor .....	15
Hand—mercury .....	19	Hard—solid .....	19	Doctor—dram .....	19
Short—have .....	12	Eagle—government .....	19	Loud—temper .....	15
Fruit—flavor .....	19	Stomach—chest .....	19	Thief—caught .....	2
Butterfly—plant .....	13	Stem—wish .....	19	Lion—crown .....	15
Smooth—level .....	19	Lamp—brilliance .....	17	Joy—pleasure .....	1
Command—obedient .....	19	Dream—unso .....	4	Bed—comforts .....	19
Chair—rest .....	19	Yellow—color .....	19	Heavy—thoughts .....	1
Sweet—polish .....	19	Bread—crust .....	19	Tobacco—changes .....	15
Whistle—note .....	19	Justice—truth .....	19	Baby—pleasure .....	1
Woman—comfort .....	19	Boy—obedient .....	2	Moon—brilliance .....	2
Cold—pleasant .....	1	Light—heart .....	2	Scissors—edge .....	19
Slow—move .....	19	Health—feeling .....	19	Quiet—baptism .....	19
Wish—wealth .....	19	Bible—scripture .....	19	Green—autumn .....	19
River—shell .....	19	Memory—saying .....	19	Salt—gather .....	19
White—change .....	19	Sheep—wool .....	19	Street—thoroughfare .....	19
Beautiful—sat .....	19	Bath—get .....	19	King—crown .....	19
Window—temperature .....	19	Cottage—morrell .....	4	Cheese—flavor .....	15
Rough—shell .....	15	Swift—good .....	1	Blossom—wood .....	17
Citizen—soldier .....	19	Blue—look .....	19	Afraid—downhearted .....	17
Foot—travel .....	19	Hungry—have .....	12		
Spider—web .....	19	Priest—scripture .....	15		

## CASE No. 3307.—G. F. Unclassified reactions, mostly incoherent; slight tendency to respond by sound reactions.

Table—desk .....	19	Needle—bird .....	13	Ocean—waves .....	19
Dark—blue .....	19	Red—green .....	19	Head—hat .....	19
Music—stars .....	13	Sleep—opening .....	19	Stove—blackening .....	2
Sickness—trees .....	19	Anger—angry .....	19	Long—garden .....	19
Man—menace .....	10	Carpet—stitching .....	19	Religion—goodness .....	1
Deep—soap .....	19	Girl—madam .....	17	Whiskey—Kummell .....	17
Soft—excited .....	19	High—ceiling .....	19	Child—woman .....	1
Eating—spelling .....	10	Working—easy .....	19	Bitter—coughing .....	19
Mountain—marbles .....	19	Sour—warm .....	19	Hammer—sofa .....	19
House—train .....	19	Earth—heaven .....	19	Thirsty—pillow .....	18
Black—bed .....	19	Trouble—astonished .....	19	City—united .....	19
Mutton—button .....	10	Soldier—man .....	1	Square—oblong .....	19
Comfort—steak .....	13	Cabbage—carrot .....	19	Butter—lard .....	19
Hand—flexible .....	19	Hard—softness .....	2	Doctor—physician .....	19
Short—umbrella .....	17	Eagle—parrot .....	19	Loud—easy .....	19
Fruit—blanket .....	19	Stomach—mind .....	19	Thief—burglar .....	19
Butterfly—grass .....	19	Stem—stable .....	10	Lion—tiger .....	19
Smooth—sheet .....	19	Lamp—oil .....	19	Joy—healthy .....	2
Command—carpet .....	19	Dream—awake .....	19	Bed—thread .....	10
Chair—store .....	19	Yellow—darkness .....	2	Heavy—gloves .....	17
Sweet—flower .....	19	Bread—rough .....	19	Tobacco—cigar .....	19
Whistle—linen .....	19	Justice—male .....	19	Baby—hood .....	11
Woman—water .....	19	Boy—buoy .....	10	Moon—stars .....	19
Cold—coal .....	19	Light—standing .....	19	Scissors—knife .....	19
Slow—ferry .....	17	Health—very .....	12	Quiet—recollect .....	17
Wish—sample .....	19	Bible—ashamed .....	19	Green—ring .....	19
River—shades .....	19	Memory—staring .....	19	Salt—pencil .....	19
White—blue .....	19	Sheep—stock .....	19	Street—bushes .....	19
Beautiful—suspender .....	19	Bath—sponge .....	19	King—Germany .....	17
Window—wood .....	19	Cottage—house .....	19	Cheese—rice .....	17
Rough—chisel .....	19	Swift—mouse .....	19	Blossom—pepper .....	19
Citizen—ruler .....	19	Blue—fall .....	19	Afraid—allspice .....	18
Foot—snake .....	19	Hungry—appetite .....	19		
Spider—fly .....	19	Priest—pastor .....	19		

## CASE No. 971.—O. M. Unclassified reactions, mostly incoherent.

Table—vote .....	19	Needle—pin .....		Ocean—sea .....	
Dark—plenty .....	19	Red—white .....		Head—cranium .....	
Music—health .....	19	Sleep—apple .....	13	Stove—soft .....	19
Sickness—fright .....		Anger—sour .....	19	Long—biles .....	4
Man—manager .....	10	Carpet—wool .....		Religion—bunion .....	10
Deep—slow .....	19	Girl—boy .....		Whiskey—vinegar .....	17
Soft—pepper .....	19	High—low .....		Child—edge .....	19
Eating—vanity .....	19	Working—height .....	13	Bitter—born .....	10
Mountain—alept .....	19	Sour—pitcher .....	19	Hammer—wood .....	
House—courage .....	19	Earth—clam .....	19	Thirsty—cradle .....	19
Black—funeral .....		Trouble—necessity .....	9	City—flames .....	19
Mutton—age .....	19	Soldier—marine .....		Square—eating .....	19
Comfort—slide .....	19	Cabbage—watermelon .....	17	Butter—dirt .....	19
Hand—credit .....	19	Hard—cracker .....	17	Doctor—malefactor .....	19
Short—Simpson .....	17	Eagle—bright .....	19	Loud—quinine .....	19
Fruit—physician .....	19	Stomach—back .....		Thief—joy .....	19
Butterfly—torment .....	19	Stem—stimulant .....	10	Lion—sage .....	19
Smooth—button .....	17	Lamp—hair .....	19	Joy—thorn .....	19
Command—scarf .....	19	Dream—knees .....	19	Bed—draper .....	19
Chair—rage .....	19	Yellow—amen .....	12	Heavy—close .....	19
Sweet—cider .....	17	Bread—general .....	19	Tobacco—weed .....	
Whistle—lace .....	19	Justice—no .....	2	Baby—stop .....	19
Woman—debt .....	19	Boy—grass .....	19	Moon—starch .....	19
Cold—powderly .....	4	Light—thought .....	9	Scissors—crepe .....	17
Slow—telephone .....	19	Health—depression .....	17	Quiet—bustle .....	19
Wish—regret .....	17	Bible—judge .....	4	Green—color .....	
River—herald .....	19	Memory—stomach .....	19	Salt—throw .....	19
White—black .....		Sheep—crusade .....	19	Street—ferment .....	19
Beautiful—jolly .....	19	Bath—labor .....	19	King—jaunce .....	4
Window—pane .....		Cottage—cotton .....	10	Cheese—tepid .....	19
Rough—duty .....	19	Swift—depth .....	19	Blossom—woman .....	9
Citizen—ward .....	17	Blue—crimson .....	17	Afraid—ashame .....	17
Foot—minister .....	19	Hungry—alloyed .....	19		
Spider—handsome .....	19	Priest—politicians .....	17		

## CASE No. 01655.—E. H. Unclassified reactions, mostly incoherent.

Table—cent .....	19	Needle—drops .....	15	Ocean—stop .....	15
Dark—sweet .....	19	Red—glass .....	17	Head—strap .....	19
Music—delighted .....	2	Sleep—suits .....	19	Stove—pot .....	17
Sickness—pop .....	19	Anger—suits .....	5	Long—name .....	
Man—change .....	19	Carpet—hat .....	19	Religion—day .....	13
Deep—pass .....	19	Girl—president .....	19	Whiskey—take .....	19
Soft—drop .....	19	High—pass .....	19	Child—jaw .....	17
Eating—fair .....	19	Working—knock .....	19	Bitter—licorice .....	17
Mountain—heavy .....	19	Sour—cake .....	19	Hammer—sound .....	
House—fate .....	19	Earth—home .....		Thirsty—cards .....	19
Black—right .....	19	Trouble—news .....	17	City—dice .....	13
Mutton—with .....	12	Soldier—name .....	19	Square—muff .....	19
Comfort—indeed .....	12	Cabbage—rule .....	19	Butter—stick .....	19
Hand—span .....	10	Hard—rope .....	19	Doctor—perfect .....	19
Short—stop .....		Eagle—in .....	12	Loud—walk .....	15
Fruit—dip .....	19	Stomach—potato .....	17	Thief—jail .....	
Butterfly—home .....	19	Stem—pick .....		Lion—cow .....	
Smooth—days .....	19	Lamp—berry .....	18	Joy—nail .....	19
Command—stop .....	15	Dream—book .....		Bed—new .....	19
Chair—pledge .....	19	Yellow—lettuce .....	10	Heavy—down .....	12
Sweet—right .....	15	Bread—chews .....	17	Tobacco—prize .....	19
Whistle—home .....	15	Justice—night .....	15	Baby—new .....	15
Woman—Louisa .....	17	Boy—bat .....	17	Moon—new .....	
Cold—chair .....	16	Light—rasp .....	19	Scissors—teach .....	19
Slow—aid .....	19	Health—off .....	12	Quiet—man .....	1
Wish—book .....	2	Bible—comforter .....	2	Green—water .....	17
River—shoes .....	19	Memory—candy .....	19	Salt—money .....	19
White—ouch .....	12	Sheep—eat .....		Street—right .....	15
Beautiful—not .....	12	Bath—sweet .....	19	King—girl .....	19
Window—papers .....	19	Cottage—walk .....	19	Cheese—house .....	19
Rough—lettuce .....	19	Swift—reason .....	19	Blossom—work .....	1
Citizen—money .....	17	Blue—dot .....	19	Afraid—jars .....	19
Foot—stand .....		Hungry—swift .....	16		
Spider—socks .....	19	Priest—birth .....	19		

CASE M. F. (from Hudson River State Hospital).—Unclassified reactions, mostly incoherent.

Table—heat	19	Needle—action	19	Ocean—pilot	17
Dark—succeed	19	Red—stout	19	Head—tin	19
Music—benefit	19	Sleep—lazy	17	Stove—plate	17
Sickness—steep	19	Anger—anguish	19	Long—trouble	19
Man—dicut	4	Carpet—knowledge	19	Religion—soap	19
Deep—rectify	19	Girl—first	19	Whiskey—starch	18
Soft—bed	19	High—hand	19	Child—night	19
Eating—dozy	19	Working—power	17	Bitter—contentment	19
Mountain—tulu	4	Sour—mud	19	Hammer—shortness	19
House—sails	19	Earth—sky	19	Thirsty—knife	19
Black—sunrise	19	Trouble—sorrow	19	City—mind	19
Mutton—tuition	19	Soldier—manhood	2	Square—truth	2
Comfort—blasphemous	19	Cabbage—righteous	19	Butter—biscuit	19
Hand—doing	19	Hard—beaten	17	Doctor—piles	17
Short—pest	19	Eagle—dog	19	Loud—distrust	19
Fruit—charm	19	Stomach—paste	19	Thief—babies	19
Butterfly—doctor	19	Stem—dust	19	Lion—hair	19
Smooth—border	19	Lamp—fall	19	Joy—eyesight	19
Command—right	19	Dream—idle	17	Bed—dievos	4
Chair—distill	19	Yellow—zone	19	Heavy—determined	19
Sweet—noticed	19	Bread—pan	17	Tobacco—health	19
Whistle—stead	19	Justice—tricks	17	Baby—wood	19
Woman—splice	19	Boy—barrel	19	Moon—heat	15
Cold—strap	19	Light—powers	15	Scissors—squeeze	19
Slow—chief	19	Health—kindness	19	Quiet—tears	19
Wish—shame	19	Bible—story	19	Green—fall	15
River—word	19	Memory—pillow	19	Salt—soft	19
White—color	19	Sheep—veil	19	Street—wait	19
Beautiful—better	19	Bath—ink	19	King—inches	19
Window—dull	19	Cottage—paper	19	Cheese—doctor	15
Rough—bright	18	Swift—arrow	19	Blossom—fades	19
Citizen—chum	19	Blue—cold	19	Afraid—hearts	2
Foot—relax	19	Hungry—dyes	19		
Spider—float	19	Priest—cloak	19		

CASE No. 01552.—E. J. D. Unclassified reactions, mostly incoherent.

Table—unicorn	19	Spider—jungle	19	Priest—pedestrian	15
Dark—African	17	Needle—man	9	Ocean—commotion	10
Music—love	19	Red—monde	4	Head—sugar	19
Sickness—alumber	17	Sleep—resuscitation	4	Stove—writer	19
Man—minstrel	10	Anger—uncared	19	Long—mingle	19
Deep—river	19	Carpet—foreign	15	Religion—tent	19
Soft—highwayman	19	Girl—celt	19	Whiskey—copulency	4
Eating—England	19	High—wine	19	Child—editor	19
Mountain—pleasure	1	Working—prayer	19	Bitter—backward	19
House—Christianity	19	Sour—flower	19	Hammer—youth	19
Black—directory	19	Earth—tariff	19	Thirsty—salt	17
Mutton—capers	19	Trouble—ledger	19	City—gentler	19
Comfort—mankind	12	Soldier—work	1	Square—angelus	19
Hand—surface	19	Cabbage—ancient	19	Butter—pastry	17
Short—court	10	Hard—provender	19	Doctor—veterinary	17
Fruit—pleasure	1	Eagle—school	19	Loud—mualin	19
Butterfly—dispatcher	19	Stomach—bowels	19	Thief—grocer	19
Smooth—navigation	19	Stem—tide	19	Lion—trip	19
Command—administration	19	Lamp—scientific	19	Joy—penance	17
Chair—time	19	Dream—somno	4	Bed—granite	19
Sweet—office	13	Yellow—pain	19	Heavy—note	19
Whistle—foreign	19	Bread—populous	19	Tobacco—vanese	4
Woman—usefulness	1	Justice—thwart	19	Baby—school	15
Cold—frigid	19	Boy—globe	19	Moon—element	19
Slow—vocation	19	Light—female	13	Scissors—elderly	19
Wish—longing	19	Health—linen	19	Quiet—trinity	19
River—tributary	17	Bible—divine	17	Green—commissioner	19
White—Island	13	Memory—current	19	Salt—strength	19
Beautiful—unseen	19	Sheep—water	19	Street—voyager	19
Window—frugal	19	Bath—rain	18	King—sorrow	19
Rough—nautical	19	Cottage—journal	19	Cheese—holiday	19
Citizen—pedestrian	19	Swift—yacht	17	Blossom—parks	19
Foot—laugh	19	Blue—novel	19	Afraid—stamina	17
		Hungry—viand	2		

CASE No. 667.—C. L. Pronounced stereotypy. Following note on test record: "Many attempts were made to secure a reaction other than 'cat,' but usually without success; the reaction *cold—warm* was given spontaneously and with apparent interest; most reactions were given only in response to much urging, or else mechanically, without attention."

Table—cat	6	Needle—cat	6	Ocean—cat	5
Dark—rat	18	Red—button	15	Head—cat	5
Music—shoe	19	Sleep—cat	6	Stove—cat	5
Sickness—cat	6	Anger—go	15	Long—cat	5
Man—boy	6	Carpet—cat	6	Religion—cat	5
Deep—cat	6	Girl—in	12	Whiskey—cat	5
Soft—hat	19	High—little	19	Child—cat	5
Eating—cat	6	Working—cold	19	Bitter—cat	5
Mountain—hit	19	Sour—cat	6	Hammer—cat	5
House—gold	19	Earth—tag	19	Thirsty—cat	5
Black—woman	9	Trouble—cat	6	City—cat	5
Mutton—get	19	Soldier—cat	5	Square—cat	5
Comfort—cousin	19	Cabbage—cat	5	Butter—cat	5
Hand—Jesus	19	Hard—cat	5	Doctor—cat	5
Short—hat	15	Eagle—cat	5	Loud—cat	5
Fruit—hand	16	Stomach—cat	5	Thief—cat	5
Butterfly—going	19	Stem—hat	15	Lion—cat	5
Smooth—hat	15	Lamp—cat	6	Joy—cat	5
Command—boy	15	Dream—cat	5	Bed—cat	5
Sweet—cat	6	Yellow—cat	5	Heavy—cat	5
Whistle—boy	6	Bread—cat	5	Tobacco—cat	5
Woman—cat	6	Justice—cat	5	Baby—cat	5
Cold—warm	6	Boy—cat	5	Moon—cat	5
Slow—button	19	Light—cat	5	Scissors—cat	5
Wish—cat	6	Health—cat	5	Quiet—cat	5
River—cat	5	Bible—cat	5	Green—cat	5
White—rat	15	Memory—cat	5	Salt—cat	5
Beautiful—good	1	Sheep—cat	5	Street—cat	5
Window—wheel	19	Bath—cat	5	King—cat	5
Rough—good	9	Cottage—cat	5	Cheese—cat	5
Citizen—candy	19	Swift—cat	5	Blossom—cat	5
Foot—cat	6	Blue—cat	5	Afraid—cat	5
Spider—dog	19	Hungry—cat	5		
		Priest—cat	5		

CASE No. 6006.—E. T. S. Stereotypy.

Table—eat	6	Needle—needed	5	Ocean—fresh	19
Dark—unkindness	19	Red—beautiful	2	Head—unhealthy	15
Music—beautiful	1	Sleep—beautiful	1	Stove—warmth	5
Sickness—suffering	6	Anger—needed	6	Long—length	5
Man—good	1	Carpet—needed	5	Religion—needed	2
Deep—unkindness	15	Girl—needed	5	Whiskey—needed	5
Soft—unkindness	5	High—height	6	Child—needed	5
Eating—digesting	6	Working—needed	6	Bitter—needed	5
Mountain—low	19	Sour—needed	5	Hammer—needed	5
House—small	1	Earth—needed	5	Thirsty—water	5
Black—darkness	6	Trouble—trust	10	City—pretty	6
Mutton—good	1	Soldier—needed	6	Square—honest	5
Comfort—home	6	Cabbage—needed	5	Butter—good	1
Hand—useful	1	Hard—trouble	6	Doctor—needed	5
Short—useful	5	Eagle—beautiful	6	Loud—needed	5
Fruit—healthy	6	Stomach—trouble	5	Thief—trust	5
Butterfly—beautiful	1	Stem—shoot	10	Lion—love	19
Smooth—unkindness	15	Lamp—light	6	Joy—laughter	5
Command—great	9	Dream—pleasant	1	Bed—comfortable	5
Chair—useful	1	Yellow—pretty	1	Heavy—sleepiness	2
Sweet—healthy	15	Bread—good	1	Tobacco—needed	6
Whistle—beautiful	6	Justice—needed	6	Baby—needed	5
Woman—good	1	Boy—needed	5	Moon—needed	5
Cold—unhealthy	19	Light—pretty	6	Scissors—needed	5
Slow—good	6	Health—needed	5	Quiet—pleasure	1
Wish—always	12	Bible—needed	5	Green—me	12
River—needed	6	Memory—needed	2	Salt—needed	5
White—pretty	1	Sheep—needed	5	Street—needed	5
Beautiful—trees	6	Bath—needed	5	King—needed	5
Window—needed	6	Cottage—needed	5	Cheese—needed	5
Rough—unneded	4	Swift—needed	5	Blossom—needed	5
Citizen—needed	6	Blue—pretty	1	Afraid—nervous	5
Foot—needed	2	Hungry—food	5		
Spider—needed	5	Priest—Father	5		

CASE No. 2292.—C. M. Perseveration: numerous instances of association to preceding reaction; unclassified reactions, mostly incoherent.

Table—tree	19	Needle—thread		Ocean—turnip	18
Dark—night		Red—sew	13	Head—hair	
Music—instrument		Sleep—rest		Stove—coal	
Sickness—smoke	19	Anger—health	13	Long—wood	13
Man—woman	1	Carpet—carrots	10	Religion—lemon	10
Deep—water		Girl—eat	19	Whiskey—wheat	17
Soft—tide	18	High—horse	19	Child—rye	18
Eating—potato		Working—hay	15	Bitter—medicine	
Mountain—milk	13	Sour—cut	19	Hammer—nail	
House—clay	17	Earth—machine	19	Thirsty—beer	
Black—polish	17	Trouble—repair	18	City—cake	19
Mutton—goat		Soldier—mow	19	Square—pie	18
Comfort—cream	10	Cabbage—plant		Butter—cream	
Hand—hay	19	Hard—seed	18	Doctor—herb	19
Short—meat	19	Eagle—bird		Loud—duck	19
Fruit—pears		Stomach—egg	17	Thief—feathers	18
Butterfly—flower		Stem—join		Lion—animal	
Smooth—smell	10	Lamp—oil		Joy—peace	
Command—drink	19	Dream—burn	13	Bed—sleep	
Chair—wine	18	Yellow—gas	18	Heavy—rest	18
Sweet—honey		Bread—flour		Tobacco—chew	
Whistle—wind		Justice—drink	19	Baby—chair	19
Woman—whiskey	19	Boy—girl		Moon—sun	
Cold—fire		Light—man	9	Scissors—cut	
Slow—speed		Health—woman	1	Quiet—hair	18
Wish—go		Bible—baby	10	Green—grapes	
River—boat		Memory—want	19	Salt—bag	19
White—stem	18	Sheep—lamb		Street—stone	
Beautiful—cloak	17	Bath—water		King—cement	18
Window—drift	19	Cottage—hay	15	Cheese—money	19
Rough—storm		Swift—corn	18	Blossom—flower	
Citizen—citron	10	Blue—eat	18	Afraid—fast	19
Foot—feed	19	Hungry—ham	17		
Spider—web		Priest—pickle	18		

CASE No. 17880.—E. D. Numerous repetitions of reactions previously given; unclassified reactions, mostly incoherent; neologisms.

Table—eating		Needle—clothing	2	Ocean—help	6
Dark—night		Red—color		Head—knowing	2
Music—piano		Sleep—stopper	4	Stove—cooking	
Sickness—stopper	4	Anger—unguarded	17	Long—bank	19
Man—manly		Carpet—residence	15	Religion—church	
Deep—knowing	6	Girl—help	6	Whiskey—drink	
Soft—undoable	4	High—escorted	6	Child—help	6
Eating—oblong	19	Working—man	1	Bitter—error	10
Mountain—guide	19	Sour—form	15	Hammer—builder	2
House—residing	2	Earth—platformer	4	Thirsty—drink	
Black—dress		Trouble—unguarded	15	City—building	
Mutton—aiding	19	Soldier—sentinel	2	Square—unerror	4
Comfort—escorted	6	Cabbage—dinners	2	Butter—eating	
Hand—escorted	5	Hard—escorted	6	Doctor—destroyer	10
Short—unescorted	18	Eagle—newspaper	17	Loud—notoriety	17
Fruit—eating		Stomach—health		Thief—error	15
Butterfly—interfere	19	Stem—winding		Lion—lord	19
Smooth—knowing	6	Lamp—reading		Joy—escorted	6
Command—unerror	4	Dream—guarded	19	Bed—unescorted	15
Chair—seated		Yellow—aged	19	Heavy—unescorted	5
Sweet—durable	19	Bread—knowing	6	Tobacco—chewing	
Whistle—treated	19	Justice—bar	17	Baby—help	6
Woman—help	2	Boy—help	6	Moon—knowing	6
Cold—stopper	4	Light—advice	19	Scissors—tailor	
Slow—unknowing	4	Health—doableness	4	Quiet—form	15
Wish—treated	15	Bible—church		Green—moneyed	19
River—boats		Memory—knowing	2	Salt—eating	
White—treasurer	19	Sheep—aided	15	Street—city	
Beautiful—form		Bath—stopper	4	King—adds	19
Window—outlook		Cottage—seashore		Cheese—eating	
Rough—unescorted	15	Swift—business	17	Blossom—escorted	6
Citizen—residing	2	Blue—help	6	Afraid—unguarded	15
Foot—travel		Hungry—unadded	4		
Spider—stopper	4	Priest—Rome	19		

CASE No. 6065.—A. F. Unclassified reactions, mostly incoherent; perseveration: instances of association to preceding reaction and to preceding stimulus.

Table—stove	19	Needle—pins	9	Ocean—ship	2
Dark—clear	19	Red—person	9	Head—height	2
Music—calm	19	Sleep—nervous	17	Stove—people	9
Sickness—exact	19	Anger—determined	15	Long—heart	15
Man—particular	18	Carpet—floor	1	Religion—Catholic	19
Deep—personal	18	Girl—man	1	Whiskey—Brooklyn	19
Soft—frank	19	High—fruit	19	Child—New York	18
Eating—determined	19	Working—wear	10	Bitter—frost	19
Mountain—idea	19	Sour—sweet	10	Hammer—summer	10
House—street	19	Earth—early	10	Thirsty—fall	18
Black—water	19	Trouble—state	19	City—autumn	18
Mutton—ground	19	Soldier—girl	16	Square—winter	18
Comfort—country	18	Cabbage—woman	9	Butter—daily	19
Hand—fire	19	Hard—heart	19	Doctor—midnight	19
Short—straight	10	Eagle—bird	19	Loud—forenoon	18
Fruit—flowers	19	Stomach—friend	19	Thief—afternoon	18
Butterfly—horn	19	Stem—tree	19	Lion—evening	18
Smooth—farm	19	Lamp—couch	19	Joy—sorrow	19
Command—forbidden	2	Dream—desk	19	Bed—obstinate	19
Chair—bed	19	Yellow—table	19	Heavy—indifferent	19
Sweet—sugar	19	Bread—chair	14	Tobacco—pipe	19
Whistle—noise	19	Justice—truth	19	Baby—mother	19
Woman—boy	19	Boy—honor	13	Moon—daughter	18
Cold—house	13	Light—tails	19	Scissors—son	18
Slow—store	14	Health—care	19	Quiet—sister	18
Wish—work	19	Bible—book	19	Green—brother	18
River—sound	17	Memory—remembrance	19	Salt—forward	19
White—blue	19	Sheep—free	19	Street—proper	19
Beautiful—fair	19	Bath—court	19	King—vulgar	18
Window—door	19	Cottage—pitcher	19	Cheese—personal	15
Rough—glass	18	Swift—strong	18	Blossom—tree	19
Citizen—dress	19	Blue—delicate	18	Afraid—fear	19
Foot—exact	15	Hungry—bread	19		
Spider—fly	19	Priest—church	19		

CASE No. 17188.—G. B. Sound reactions; unclassified reactions, mostly incoherent.

Table—tablet	10	Needle—shoe	19	Ocean—hat	15
Dark—dot	10	Red—book	19	Head—broom	19
Music—Lizzie	19	Sleep—sifting	19	Stove—fan	19
Sickness—Josh	17	Anger—Freeman	19	Long—time	19
Man—McMahon	10	Carpet—longing	19	Religion—Yukon	19
Deep—deaf (deaf)	10	Girl—gone	19	Whiskey—Freeman	15
Soft—sulphur	10	High—law	19	Child—Hopkins	17
Eating—itching	10	Working—back	15	Bitter—brown	19
Mountain—mouth	10	Sour—clock	19	Hammer—hands	19
House—horse	10	Earth—flower	19	Thirsty—thirty	10
Black—back	10	Trouble—sensitivity	17	City—sure	19
Mutton—button	10	Soldier—sodder	10	Square—squire	10
Comfort—community	10	Cabbage—Cabot	10	Butter—Tam O'Shanter	10
Hand—hat	10	Hard—done	2	Doctor—Dorman	10
Short—shore	10	Eagle—time	19	Loud—law	15
Fruit—Freehoff	10	Stomach—mat	19	Thief—child	19
Butterfly—bustly	3	Stem—water	19	Lion—dirty	19
Smooth—small	1	Lamp—florist	19	Joy—commerce	19
Command—Cummings	10	Dream—Connors	19	Bed—strike	19
Chair—cherries	10	Yellow—flower	19	Heavy—Walden	19
Sweet—sweeten	8	Bread—water	19	Tobacco—Alice	19
Whistle—Walters	19	Justice—Gaynor	17	Baby—water	15
Woman—wayman	10	Boy—passion	19	Moon—handsome	19
Cold—laboratory	19	Light—life	19	Scissors—comet	19
Slow—slaw	10	Health—wealth	19	Quiet—tiger	19
Wish—wishbone	19	Bible—gone	15	Green—tree	19
River—Ontario	17	Memory—Hans	19	Salt—salary	10
White—William	19	Sheep—pasture	19	Street—prunes	19
Beautiful—bureau	10	Bath—Rogan	19	King—kind	19
Window—Weldon	10	Cottage—house	19	Cheese—handsome	15
Rough—saw	17	Swift—swim	10	Blossom—pretty	1
Citizen—Sendow	17	Blue—Thompson	19	Afraid—Africa	10
Foot—hoof	17	Hungry—memory	16		
Spider—web	19	Priest—golden	18		

CASE No. 6238.—M. H. Sound reactions; unclassified reactions, mostly incoherent.

Table—token .....19	Needle—nothing .....18	Ocean—open .....10
Dark—dye .....17	Red—rose .....12	Head—heart .....10
Music—meat .....10	Sleep—should .....12	Stove—steel .....15
Sickness—sorrow .....17	Anger—after .....10	Long—little .....15
Man—mother .....17	Carpet—cat .....10	Religion—right .....12
Deep—dark .....19	Girl—God .....19	Whiskey—when .....19
Soft—silk .....19	High—heaven .....2	Child—chimney .....19
Eating—elephant .....10	Working—will .....14	Bitter—both .....15
Mountain—many .....10	Sour—sweet .....14	Hammer—heart .....9
House—home .....10	Earth—eaten .....10	Thirsty—think .....17
Black—brown .....10	Trouble—tea .....19	City—church .....19
Mutton—men .....10	Soldier—sailor .....19	Square—swift .....19
Comfort—cat .....10	Cabbage—cobweb .....12	Butter—bread .....10
Hand—hat .....10	Hard—haven't .....15	Doctor—debtor .....19
Short—shift .....10	Eagle—eaten .....10	Loud—loaf .....10
Fruit—free .....19	Stomach—sat .....12	Thief—theatre .....10
Butterfly—baby .....19	Stem—should .....19	Lion—liar .....19
Smooth—soft .....10	Lamp—little .....12	Joy—jam .....19
Command—cat .....10	Dream—did .....10	Bed—broom .....19
Chair—comfort .....19	Yellow—you .....19	Heavy—hard .....19
Sweet—sugar .....19	Bread—butter .....10	Tobacco—Tom .....17
Whistle—wine .....10	Justice—Jesus .....14	Baby—brother .....2
Woman—when .....15	Boy—baby .....19	Moon—men .....10
Cold—cat .....12	Light—love .....19	Scissors—shift .....10
Slow—short .....12	Health—heaven .....19	Quiet—quilt .....19
Wish—when .....10	Bible—bitch .....1	Green—grass .....19
River—Rhine .....10	Memory—man .....10	Salt—said .....10
White—when .....10	Sheep—shepherd .....10	Street—Stevens .....19
Beautiful—baby .....19	Bath—both .....10	King—kite .....15
Window—wide .....19	Cottage—cat .....9	Cheese—cat .....15
Rough—red .....19	Swift—said .....12	Blossom—bad .....9
Citizen—company .....19	Blue—bad .....12	Afraid—anger .....10
Foot—feeling .....19	Hungry—haven't .....12	
Spider—speck .....10	Priest—Pope .....12	

CASE No. 12720.—J. B. Unclassified reactions, many of which are probably due to distraction; some stereotypy. Note on test record states: "Influenced by sensory impressions, but gave good attention to each stimulus word. Had some difficulty in limiting his response to one word, but made all possible effort to comply with every request. On one occasion he was asked to react with his eyes closed, but was unable, under the unnatural conditions, to respond with one word."

Table—floor .....19	Needle—name .....19	Ocean—flag .....15
Dark—light .....19	Red—sunlight .....13	Head—cabbage .....17
Music—shoe .....19	Sleep—flag .....19	Stove—rivet .....19
Sickness—well .....19	Anger—slant .....19	Long—floor .....19
Man—boy .....19	Carpet—rip .....19	Religion—priest .....19
Deep—sea .....19	Girl—lady .....19	Whiskey—tin .....6
Soft—soap .....17	High—stripe .....17	Child—shadow .....15
Eating—tea .....17	Working—steam .....19	Bitter—black .....15
Mountain—forest .....10	Sour—handkerchief .....19	Hammer—buttons .....6
House—horse .....19	Earth—ground .....19	Thirsty—shadow .....15
Black—sill .....17	Trouble—insect .....15	City—back .....15
Mutton—tablecloth .....16	Soldier—army .....15	Square—oval .....10
Comfort—black .....13	Cabbage—sill .....19	Butter—table .....10
Hand—fingers .....13	Hard—washstand .....15	Doctor—doorway .....6
Short—wrist .....17	Eagle—blue .....19	Loud—shadow .....16
Fruit—soup .....13	Stomach—tap .....15	Thief—butter .....19
Butterfly—grape .....18	Stem—sill .....19	Lion—difference .....15
Smooth—coat .....19	Lamp—back .....2	Joy—ink .....15
Command—vest .....19	Dream—shadow .....19	Bed—butter .....6
Chair—pillow .....19	Yellow—blanket .....13	Heavy—shadow .....13
Sweet—brick .....19	Bread—horizontal .....19	Tobacco—wood .....15
Whistle—knuckles .....19	Justice—ink .....19	Baby—wall .....17
Woman—wall .....19	Boy—taste .....19	Moon—lightning .....15
Cold—eating .....19	Light—yellow .....19	Scissors—book .....15
Slow—swift .....19	Health—book .....17	Quiet—yellow .....19
Wish—knob .....19	Bible—Joseph .....15	Green—sole .....15
River—pad .....19	Memory—Joe .....19	Salt—ink .....19
White—book .....19	Sheep—pillow .....19	Street—sides .....19
Beautiful—shadow .....6	Bath—Mott .....19	King—stripes .....10
Window—stockings .....19	Cottage—globe .....19	Cheese—butter .....19
Rough—stand .....19	Swift—continue .....19	Blossom—trees .....19
Citizen—blue .....19	Blue—notice .....19	Afraid—boy .....12
Foot—brass .....19	Hungry—Josephine .....12	
Spider—shoelace .....19	Priest—sixteen .....12	



CASE No. 5374.—J. F. Perseveration; some stereotypy; sound reactions; unclassified reactions many of which are probably due to distraction. Note on test record states: "Understood what was expected, but could not be induced to give much attention to the stimulus words; sat facing a window, and showed a strong tendency to merely name objects in sight. Reaction time very short, in some cases so short that it is doubtful if he recognized the stimulus word at all."

Table—God .....	19	Needle—pin .....	18	Ocean—preacher .....	13
Dark—angel .....	18	Red—cushion .....	18	Head—dead .....	10
Music—bird .....	18	Sleep—black .....	13	Stove—store .....	10
Sickness—woman .....	9	Anger—white .....	14	Long—lone .....	10
Man—male .....	19	Carpet—vengency .....	4	Religion—world .....	19
Deep—dove .....	19	Girl—noodles .....	19	Whiskey—whisper .....	10
Soft—dog .....	19	High—macaroni .....	18	Child—gule .....	4
Eating—horse .....	18	Working—tomatoes .....	18	Bitter—Rugby .....	19
Mountain—mule .....	18	Sour—asparagus .....	18	Hammer—ball .....	18
House—dog .....	18	Earth—oakry .....	4	Thirsty—sun .....	19
Black—rabbit .....	18	Trouble—peas .....	19	City—Christ .....	10
Mutton—hen .....	18	Soldier—beans .....	18	Square—Jesus .....	18
Comfort—dog .....	15	Cabbage—greens .....	19	Butter—Joe .....	19
Hand—clock .....	19	Hard—cow .....	19	Doctor—John .....	17
Short—myself .....	19	Eagle—robin .....	13	Loud—Luke .....	18
Fruit—post .....	19	Stomach—hawk .....	13	Thief—St. Matthew .....	18
Butterfly—bricks .....	19	Stem—fishes .....	19	Lion—lie .....	10
Smooth—glass .....	19	Lamp—whale .....	18	Joy—George .....	10
Command—sand .....	10	Dream—shark .....	18	Bed—Beth .....	10
Chair—leaf .....	19	Yellow—crabs .....	18	Heavy—tither .....	4
Sweet—wood .....	19	Bread—red .....	10	Tobacco—iron .....	13
Whistle—earth .....	19	Justice—jam .....	19	Baby—blade .....	10
Woman—grass .....	14	Boy—be .....	2	Moon—stars .....	10
Cold—mustard .....	19	Light—girl .....	13	Scissors—sun .....	13
Slow—kale .....	19	Health—filth .....	10	Quiet—wired .....	10
Wish—lampsquob .....	4	Bible—book .....	1	Green—mean .....	10
River—ten .....	12	Memory—bad .....	1	Salt—Lou .....	19
White—rock .....	17	Sheep—dat .....	4	Street—vault .....	19
Beautiful—water .....	17	Bath—oval .....	19	King—sepulchre .....	18
Window—scene .....	12	Cottage—nurse .....	19	Cheese—Presbyterian .....	19
Rough—been .....	12	Swift—begin .....	19	Blossom—Baptist .....	13
Citizen—house .....	13	Blue—joy .....	19	Afraid—Methodist .....	18
Foot—stable .....	2	Hungry—wonder .....	10		
Spider—horse .....	13	Priest—apostle .....	17		

CASE No. 1431.—A. L. Sound reactions; particles; unclassified reactions, mostly incoherent.

Table—ammitting .....	4	Needle—Hercules .....	19	Ocean—river .....	13
Dark—cat .....	12	Red—green .....	19	Head—sea .....	13
Music—hello .....	12	Sleep—deep .....	19	Stove—Venus .....	19
Sickness—spelling .....	19	Anger—grief .....	19	Long—hog .....	19
Man—then .....	12	Carpet—cheap .....	19	Religion—pigeon .....	10
Deep—heap .....	10	Girl—ink .....	19	Whiskey—gin .....	19
Soft—deep .....	7	High—I .....	10	Child—thing .....	19
Eating—people .....	1	Working—loafing .....	10	Bitter—better .....	10
Mountain—striking .....	19	Sour—hour .....	10	Hammer—happy .....	9
House—pat .....	19	Earth—hurt .....	10	Thirsty—whiskey .....	17
Black—and .....	12	Trouble—bubble .....	10	City—fitting .....	10
Mutton—it .....	12	Soldier—yes .....	12	Square—round .....	10
Comfort—herself .....	12	Cabbage—garbage .....	10	Butter—shut .....	10
Hand—self .....	19	Hard—bitting .....	17	Doctor—exercise .....	19
Short—length .....	13	Eagle—fitting .....	19	Loud—accounts .....	10
Fruit—long .....	13	Stomach—pitting .....	19	Thief—endless .....	19
Butterfly—quick .....	19	Stem—condemned .....	10	Lion—tiger .....	19
Smooth—edges .....	19	Lamp—stamp .....	10	Joy—fast .....	19
Command—first .....	17	Dream—stained .....	19	Bed—grass .....	19
Chair—exact .....	19	Yellow—purple .....	19	Heavy—heaving .....	10
Sweet—nicest .....	2	Bread—pimple .....	19	Tobacco—queen .....	19
Whistle—thistle .....	10	Justice—suit .....	17	Baby—water .....	19
Woman—pins .....	19	Boy—ahoy .....	12	Moon—room .....	19
Cold—waving .....	19	Light—night .....	12	Scissors—pants .....	17
Slow—swift .....	19	Health—wealth .....	12	Quiet—razor .....	13
Wish—choice .....	17	Bible—indeed .....	12	Green—steel .....	13
River—never .....	10	Memory—remembering ..	12	Salt—sharp .....	19
White—black .....	19	Sheep—cow .....	19	Street—fence .....	19
Beautiful—much .....	19	Bath—sponge .....	19	King—bring .....	10
Window—such .....	19	Cottage—people .....	1	Cheese—eggs .....	19
Rough—exact .....	15	Swift—left .....	10	Blossom—see .....	19
Citizen—just .....	15	Blue—shift .....	19	Afraid—awaiting .....	19
Foot—root .....	10	Hungry—property .....	19		
Spider—diving .....	19	Priest—judge .....	2		

CASE No. 6251.—C. D. Some stereotypy; particles; unclassified reactions, mostly incoherent.

Table—doctor .....	19	Needle—ether .....	19	Ocean—land .....	
Dark—nigger .....	17	Red—pot .....		Head—millionaire .....	19
Music—violin .....		Sleep—wake .....		Stove—twenty-five .....	12
Sickness—whores .....	19	Anger—mad .....		Long—thirty-four .....	12
Man—Mulcane .....	17	Carpet—pretty .....	1	Religion—churches .....	
Deep—deaf .....	19	Girl—boy .....	10	Whiskey—plenty .....	6
Soft—hearing .....	13	High—Heidel .....	10	Child—baby .....	
Eating—pillow .....	13	Working—never .....		Bitter—sorrow .....	
Mountain—sight .....	19	Sour—sweet .....		Hammer—court .....	19
House—pure .....	19	Earth—bride .....	19	Thirsty—blood .....	11
Black—nigger .....		Trouble—mischief .....		City—this .....	12
Mutton—plenty .....	6	Soldier—war .....		Square—1 .....	12
Comfort—middle .....	19	Cabbage—head .....		Butter—plenty .....	6
Hand—left .....	17	Hard—never .....	6	Doctor—millionaire .....	15
Short—one .....	12	Eagle—fly .....		Loud—tell .....	17
Fruit—up .....	12	Stomach—go .....	19	Thief—rich .....	19
Butterfly—bird .....		Stem—study .....	10	Lion—west .....	19
Smooth—never .....	6	Lamp—light .....		Joy—ever .....	12
Command—commodore .....	10	Dream—behave .....	19	Bed—Constance .....	15
Chair—seat .....		Yellow—false .....	19	Heavy—fine .....	9
Sweet—sugar .....		Bread—plenty .....	6	Tobacco—back .....	10
Whistle—highest .....	19	Justice—just .....		Baby—millionaire .....	15
Woman—Constance .....	17	Boy—come .....	19	Moon—always .....	12
Cold—temperature .....		Light—Davie .....	19	Scissors—large .....	9
Slow—walk .....		Health—wealth .....		Quiet—stay .....	19
Wish—wishbone .....		Bible—Constance .....	15	Green—flowers .....	
River—love .....	19	Memory—fine .....	1	Salt—perfume .....	13
White—Dr. White .....	17	Sheep—plenty .....	6	Street—floor .....	19
Beautiful—pretty .....	1	Bath—bother .....	10	King—Haaken .....	19
Window—dove .....	19	Cottage—mansion .....		Cheese—kiss .....	19
Rough—fine .....	1	Swift—hurry .....		Blossom—flower .....	
Citizen—United States .....		Blue—flowers .....	2	Afraid—never .....	
Foot—left .....	15	Hungry—never .....			
Spider—web .....		Priest—highest .....	2		

CASE No. 17607.—P. D. Test record somewhat approaching the normal; 24 individual reactions, of which 16 are unclassified, mostly "far fetched" and not strictly incoherent. Patient is a well-marked case of dementia præcox but only moderately deteriorated; works well at the hospital.

Table—oak .....		Needle—steel .....		Ocean—Atlantic .....	
Dark—brown .....		Red—color .....		Head—stature .....	15
Music—falsetto .....	17	Sleep—slumber .....		Stove—iron .....	
Sickness—typhoid .....		Anger—aroused .....	2	Long—inches .....	17
Man—gender .....	19	Carpet—texture .....		Religion—creed .....	
Deep—feet .....	19	Girl—female .....		Whiskey—hops .....	
Soft—feeling .....		High—up .....		Child—neuter .....	19
Eating—partaking .....	19	Working—doing .....		Bitter—horehound .....	17
Mountain—hunter .....	19	Sour—lemon .....		Hammer—steel .....	
House—dwelling .....		Earth—dirt .....		Thirsty—degree .....	15
Black—color .....		Trouble—distress .....		City—population .....	
Mutton—sheep .....		Soldier—uniform .....		Square—sides .....	
Comfort—coziness .....	2	Cabbage—crop .....	19	Butter—cream .....	
Hand—anatomy .....		Hard—metal .....		Doctor—physician .....	
Short—stature .....		Eagle—bird .....		Loud—noise .....	
Fruit—apples .....		Stomach—anatomy .....		Thief—characterization .....	19
Butterfly—insect .....		Stem—pipe .....		Lion—menagerie .....	
Smooth—plain .....		Lamp—glass .....		Joy—openness .....	19
Command—order .....		Dream—atmosphere .....	19	Bed—furniture .....	
Chair—furniture .....		Yellow—color .....		Heavy—weight .....	
Sweet—sugar .....		Bread—flour .....		Tobacco—plant .....	
Whistle—steam .....		Justice—equality .....		Baby—egg .....	19
Woman—sex .....		Boy—male .....		Moon—astronomy .....	
Cold—degree .....		Light—sun .....		Scissors—blades .....	
Slow—speedless .....		Health—color .....		Quiet—noiseless .....	
Wish—expression .....		Bible—nonsense .....	19	Green—Paris .....	11
River—Amazon .....		Memory—retentiveness .....	2	Salt—crystal .....	17
White—pulp .....	17	Sheep—quadruped .....		Street—lane .....	
Beautiful—description .....		Bath—water .....		King—usurper .....	19
Window—opaque .....	19	Cottage—stories .....	19	Cheese—milk .....	
Rough—uncouth .....		Swift—speed .....		Blossom—bud .....	
Citizen—qualification .....	19	Blue—navy .....		Afraid—scared .....	
Foot—anatomy .....		Hungry—appetite .....			
Spider—bug .....		Priest—uniform .....	15		

CASE No. 5537.—J. H. Test record approaching the normal: 21 individual reactions, 8 classed as normal, 1 non-specific, 12 unclassified, mostly "far fetched" but not strictly incoherent. Well-marked dementia præcox, but of recent origin and but slight deterioration.

Table—eat .....	Needle—sew .....	Ocean—commerce .....19
Dark—night .....	Red—marine .....19	Head—thought .....1
Music—pleasure .....1	Sleep—repose .....	Stove—iron .....
Sickness—suffering .....	Anger—assault .....17	Long—distance .....
Man—farmer .....17	Carpet—cloth .....	Religion—belief .....
Deep—low .....	Girl—sister .....	Whiskey—alcohol .....
Soft—hard .....	High—above .....	Child—parent .....
Eating—life .....	Working—labor .....	Bitter—taste .....
Mountain—earth .....	Sour—bitter .....	Hammer—trade .....19
House—dwelling .....	Earth—farm .....	Thirsty—beverage .....
Black—color .....	Trouble—fight .....	City—position .....19
Mutton—food .....	Soldier—duty .....	Square—block .....
Comfort—rest .....	Cabbage—vegetable .....	Butter—yellow .....
Hand—limb .....	Hard—stone .....	Doctor—profession .....
Short—small .....1	Eagle—large .....1	Loud—fiddle .....17
Fruit—nourishing .....	Stomach—body .....	Thief—police .....
Butterfly—flower .....	Stem—leaf .....	Lion—Africa .....
Smooth—straight .....	Lamp—light .....	Joy—sensation .....
Command—obey .....	Dream—unconsciousness .....	Bed—rest .....
Chair—furniture .....	Yellow—flag .....	Heavy—burden .....
Sweet—palate .....2	Bread—hunger .....	Tobacco—store .....19
Whistle—noise .....	Justice—freedom .....	Baby—care .....
Woman—marriage .....	Boy—school .....	Moon—atmosphere .....
Cold—indisposed .....17	Light—electricity .....	Scissors—dressmaker .....
Slow—weary .....19	Health—business .....19	Quiet—lonesome .....
Wish—work .....9	Bible—religion .....	Green—color .....
River—tug .....	Memory—brain .....	Salt—house .....19
White—sheets .....2	Sheep—pasture .....	Street—neighborhood ...17
Beautiful—rare .....19	Bath—clean .....	King—beast .....19
Window—ventilation ....	Cottage—property .....17	Cheese—merchant .....19
Rough—uneven .....	Swift—current .....	Blossom—flowers .....
Citizen—public .....17	Blue—uniform .....17	Afraid—train .....10
Foot—walk .....	Hungry—appetite .....	
Spider—web .....	Priest—church .....	

CASE No. 6190.—L. L. Test record not distinguishable from normal. Case of recent onset, with little, if any deterioration.

Table—chair .....	Needle—cotton .....	Ocean—ships .....
Dark—light .....	Red—brick .....	Head—mind .....
Music—note .....	Sleep—night .....	Stove—chimney .....19
Sickness—health .....	Anger—joy .....	Long—wind .....
Man—woman .....1	Carpet—cloth .....17	Religion—God .....
Deep—shallow .....	Girl—mouth .....17	Whiskey—alcohol .....
Soft—hard .....	High—low .....	Child—mother .....
Eating—breakfast .....	Working—idle .....	Bitter—fruit .....
Mountain—rock .....	Sour—vinegar .....	Hammer—nails .....
House—chimney .....	Earth—round .....	Thirsty—water .....
Black—white .....	Trouble—sickness .....	City—cars .....
Mutton—animal .....	Soldier—gun .....	Square—angles .....
Comfort—chair .....	Cabbage—garden .....	Butter—cow .....
Hand—foot .....	Hard—rock .....	Doctor—sickness .....
Short—long .....	Eagle—fly .....	Loud—noise .....2
Fruit—ripe .....	Stomach—man .....1	Thief—sinner .....2
Butterfly—fields .....	Stem—watch .....	Lion—jungle .....
Smooth—hard .....	Lamp—oil .....	Joy—gladness .....
Command—army .....	Dream—sleep .....	Bed—pillow .....
Chair—straw .....19	Yellow—sunflower .....	Heavy—iron .....
Sweet—bitter .....	Bread—butter .....	Tobacco—leaf .....
Whistle—engine .....	Justice—peace .....	Baby—mother .....
Woman—man .....1	Boy—girl .....	Moon—stars .....
Cold—hot .....	Light—window .....	Scissors—thread .....
Slow—fast .....	Health—man .....1	Quiet—room .....
Wish—desire .....	Bible—God .....	Green—grass .....
River—brook .....	Memory—mind .....	Salt—ocean .....
White—black .....	Sheep—pasture .....	Street—men .....15
Beautiful—girl .....	Bath—water .....	King—queen .....
Window—glass .....	Cottage—trees .....	Cheese—butter .....
Rough—smooth .....	Swift—engine .....	Blossom—bud .....
Citizen—city .....	Blue—sky .....	Afraid—coward .....
Foot—ankle .....	Hungry—bread .....	
Spider—web .....	Priest—church .....	

CASE No. 1278.—B. B. Test record not distinguishable from normal. Case of several years standing, but showing almost complete remission of all symptoms.

Table—chair .....	Needle—thread .....	Ocean—sea .....
Dark—day .....	Red—white .....	Head—body .....
Music—instrument .....	Sleep—slumber .....	Stove—iron .....
Sickness—health .....	Anger—kindness .....	Long—length .....
Man—woman ..... 1	Carpet—mat .....	Religion—too ..... 12
Deep—thoughts ..... 1	Girl—boy .....	Whiskey—drink .....
Soft—apple .....	High—short .....	Child—baby .....
Eating—food .....	Working—idle .....	Bitter—taste .....
Mountain—rock .....	Sour—sweet .....	Hammer—nails .....
House—building .....	Earth—land .....	Thirsty—drink .....
Black—dark .....	Trouble—sorrow .....	City—town .....
Mutton—meat .....	Soldier—hero .....	Square—man ..... 1
Comfort—home .....	Cabbage—turnip .....	Butter—bread .....
Hand—from ..... 12	Hard—soft .....	Doctor—patient .....
Short—stout .....	Eagle—owl .....	Loud—howl ..... 17
Fruit—eating .....	Stomach—head .....	Thief—steal .....
Butterfly—bird .....	Stem—pipe .....	Lion—bear .....
Smooth—glossy .....	Lamp—cover ..... 10	Joy—happiness ..... 1
Command—general .....	Dream—sleep .....	Bed—blanket .....
Chair—floor .....	Yellow—brown .....	Heavy—weight .....
Sweet—taste .....	Bread—biscuit .....	Tobacco—smoke .....
Whistle—tune .....	Justice—peaceful ..... 2	Baby—cradle .....
Woman—man ..... 1	Boy—girl .....	Moon—sun .....
Cold—chilly .....	Light—dark .....	Scissors—thimble .....
Slow—fast .....	Health—well .....	Quiet—stillness .....
Wish—something .....	Bible—book .....	Green—plaid ..... 17
River—water .....	Memory—lost ..... 2	Salt—pepper .....
White—black .....	Sheep—animal .....	Street—sidewalk .....
Beautiful—pretty ..... 1	Bath—wash .....	King—queen .....
Window—pane .....	Cottage—house .....	Cheese—crackers .....
Rough—ugly .....	Swift—movements ..... 2	Blossom—leaf .....
Citizen—papers .....	Blue—red .....	Afraid—frightened .....
Foot—shoe .....	Hungry—thirst .....	
Spider—bug .....	Priest—minister .....	

#### PARANOID CONDITIONS.

The clinical group of psychoses included under the designation paranoid conditions is far from being homogeneous. We have here cases that are more or less closely allied to the paranoid form of dementia præcox, other cases that are apparently dependent upon involutional changes (Kraepelin's *praeseniler Beeinträchtigungswahn*), still other cases that are characterized by absence or at least delay of mental deterioration, etc.

In some of these cases disturbance of the flow of utterance is not observed, and the test records obtained from them present no striking abnormalities. Distinctly pathological records are obtained mainly from those cases which clinically resemble dementia præcox; in these records the nature of the pathological reactions would seem to indicate that the diagnosis of dementia præcox would be more justifiable than that of paranoid condition.

The following test records will serve to illustrate the types of reactions met with in this group of psychoses:

## CASE No. 3039.—F. A. Normal record.

Table—purpose .....	19	Needle—sewing .....		Ocean—large .....	1
Dark—obscure .....		Red—color .....		Head—trunk .....	1
Music—pleasant .....	1	Sleep—bed .....		Stove—fire .....	
Sickness—confinement ..	17	Anger—cross .....		Long—distance .....	
Man—twenty-one .....	12	Carpet—floor .....		Religion—Christianity ..	
Deep—down .....		Girl—young .....		Whiskey—drinkable .....	
Soft—smooth .....		High—up .....		Child—young .....	
Eating—nourishment .....		Working—labor .....		Bitter—bad .....	1
Mountain—high .....		Sour—unpleasant .....	1	Hammer—knock .....	
House—living .....		Earth—dirt .....		Thirsty—dry .....	
Black—dark .....		Trouble—worryment .....		City—government .....	
Mutton—eating .....		Soldier—fight .....		Square—block .....	
Comfort—pleasant .....	1	Cabbage—vegetable .....		Butter—eat .....	
Hand—limb .....		Hard—tough .....		Doctor—cure .....	
Short—low .....		Eagle—bird .....		Loud—noisy .....	
Fruit—eat .....		Stomach—anatomy .....		Thief—steal .....	
Butterfly—miller .....		Stem—growth .....		Lion—animal .....	
Smooth—soft .....		Lamp—burn .....		Joy—pleasant .....	1
Command—obey .....		Dream—restlessness .....		Bed—laying .....	2
Chair—sitting .....		Yellow—color .....		Heavy—weighty .....	
Sweet—tasting .....		Bread—eat .....		Tobacco—smoking .....	
Whistle—noise .....		Justice—right .....		Baby—new-born .....	17
Woman—female .....		Boy—young .....		Moon—planet .....	
Cold—unpleasant .....	1	Light—see .....		Scissors—cutting .....	
Slow—easy .....		Health—well .....		Quiet—easy .....	
Wish—want .....		Bible—religion .....		Green—color .....	
River—water .....		Memory—thoughtful .....		Salt—preservative .....	2
White—colorless .....		Sheep—animal .....		Street—lane .....	
Beautiful—handsome .....		Bath—wash .....		King—monarch .....	
Window—glass .....		Cottage—house .....		Cheese—eatable .....	
Rough—unpleasant .....	1	Swift—fast .....		Blossom—budding .....	2
Citizen—vote .....		Blue—color .....		Afraid—fear .....	
Foot—limb .....		Hungry—appetite .....			
Spider—insect .....		Priest—Christian .....	17		

## CASE No. 5803.—D. E. D. Slight tendency to give sound reactions.

Table—tree .....	19	Needle—pin .....		Ocean—river .....	
Dark—bright .....		Red—yellow .....		Head—neck .....	
Music—song .....		Sleep—slumber .....		Stove—covers .....	2
Sickness—health .....		Anger—amiable .....		Long—short .....	
Man—woman .....	1	Carpet—mat .....		Religion—optional .....	19
Deep—shallow .....		Girl—boy .....		Whiskey—wine .....	
Soft—hard .....		High—hill .....		Child—baby .....	
Eating—digesting .....		Working—playing .....		Bitter—sweet .....	
Mountain—hill .....		Sour—sweet .....		Hammer—gimlet .....	17
House—horse .....	10	Earth—land .....		Thirsty—drink .....	
Black—red .....		Trouble—tranquillity ..	10	City—town .....	
Mutton—tallow .....		Soldier—boy .....		Square—compass .....	
Comfort—wealth .....		Cabbage—plant .....		Butter—butterfly .....	10
Hand—arm .....		Hard—easy .....		Doctor—lawyer .....	
Short—long .....		Eagle—bird .....		Loud—lord .....	10
Fruit—plate .....	17	Stomach—bowels .....		Thief—beggar .....	
Butterfly—net .....		Stem—head .....		Lion—lions .....	
Smooth—surface .....		Lamp—chimney .....		Joy—sorrow .....	
Command—obey .....		Dream—myth .....	17	Bed—couch .....	
Chair—table .....		Yellow—blue .....		Heavy—light .....	
Sweet—sour .....		Bread—biscuit .....		Tobacco—cigarette .....	
Whistle—call .....		Justice—balance .....	17	Baby—child .....	
Woman—lady .....		Boy—girl .....	17	Moon—stars .....	
Cold—lukewarm .....	19	Light—gray .....	17	Scissors—knife .....	
Slow—not .....	12	Health—wealth .....		Quiet—quilt .....	10
Wish—receive .....		Bible—prayerbook .....		Green—envy .....	
River—lake .....		Memory—understanding ..		Salt—sewing .....	19
White—black .....		Sheep—lamb .....		Street—lane .....	
Beautiful—graceful .....		Bath—swim .....		King—queen .....	
Window—door .....		Cottage—house .....		Cheese—cracker .....	
Rough—smooth .....		Swift—slow .....		Blossom—flower .....	
Citizen—city .....		Blue—yellow .....		Afraid—courageous .....	
Foot—leg .....		Hungry—eat .....			
Spider—soap .....	10	Priest—bishop .....			

CASE No. 2133.—M. F. Unclassified reactions, mostly "far fetched" or incoherent; perseveration.

Table—eat	Needle—Carrie	19	Ocean—spring	15
Dark—night	Red—pink	19	Head—canary	19
Music—sing	Sleep—awake	19	Stove—board	19
Sickness—sadness	Anger—jolly	19	Long—dishes	13
Man—home	Carpet—curtains	19	Religion—piano	19
Deep—light	Girl—yellow	19	Whiskey—home	15
Soft—sleep	High—green	14	Child—baby	19
Eating—drink	Working—bed	19	Bitter—shoes	19
Mountain—hills	Sour—dishes	19	Hammer—tacks	19
House—home	Earth—grapes	13	Thirsty—longing	19
Black—stove	Trouble—work	1	City—flushing	17
Mutton—lamb	Soldier—sing	15	Square—store	10
Comfort—pleasure	Cabbage—potatoes	1	Butter—butcher	10
Hand—write	Hard—sewing	17	Doctor—hat	19
Short—short-cake	Eagle—daisy	19	Loud—chair	15
Fruit—grapes	Stomach—flowers	18	Thief—picture	19
Butterfly—butter	Stem—vine	19	Lion—house	13
Smooth—ironing	Lamp—flatiron	19	Joy—gladness	19
Command—correct	Dream—sleep	19	Bed—sleep	19
Chair—see	Yellow—awake	18	Heavy—sick	2
Sweet—apples	Bread—children	19	Tobacco—album	19
Whistle—happiness	Justice—dresses	14	Baby—basket	17
Woman—girl	Boy—mother	19	Moon—stars	19
Cold—warm	Light—dark	19	Scissors—knife	19
Slow—fast	Health—wealth	19	Quiet—spoon	18
Wish—like	Bible—commands	2	Green—scar	19
River—water	Memory—black	13	Salt—pepper	19
White—blue	Sheep—chickens	17	Street—sugar	13
Beautiful—red	Bath—carpet	19	King—blackening	19
Window—light	Cottage—worsted	14	Cheese—meat	19
Rough—easy	Swift—silk	18	Blossom—flowers	19
Citizen—spring	Blue—cotton	18	Afraid—red	13
Foot—run	Hungry—chair	19		
Spider—fly	Priest—church	19		

CASE No. 4569.—L. K. Marked stereotypy; unclassified reactions, mostly incoherent.

Table—fruit	Needle—house	6	Ocean—God	6
Dark—light	Red—colors	6	Head—servant	6
Music—pleasure	Sleep—God	6	Stove—house	6
Sickness—illness	Anger—God	5	Long—God	6
Man—parent	Carpet—house	6	Religion—servant	6
Deep—verse	Girl—God	6	Whiskey—doctor	15
Soft—fruit	High—house	6	Child—house	6
Eating—illness	Working—parent	6	Bitter—taste	19
Mountain—parent	Sour—desire	15	Hammer—household	19
House—privilege	Earth—God	6	Thirsty—drink	6
Black—colors	Trouble—God	5	City—God	6
Mutton—parent	Soldier—house	6	Square—touch	19
Comfort—family	Cabbage—desire	15	Butter—taste	6
Hand—comfort	Hard—vegetable	19	Doctor—servant	6
Short—parent	Eagle—animal	19	Loud—thought	9
Fruit—parent	Stomach—doctor	19	Thief—slave	19
Butterfly—insect	Stem—growth	19	Lion—animal	19
Smooth—surface	Lamp—house	19	Joy—pleasure	1
Command—privilege	Dream—God	6	Bed—household	15
Chair—house	Yellow—color	6	Heavy—weight	15
Sweet—dairy	Bread—God	6	Tobacco—doctor	15
Whistle—nature	Justice—fright	19	Baby—care	19
Woman—parent	Boy—parent	6	Moon—heavens	19
Cold—house	Light—God	6	Scissors—household	15
Slow—light	Health—God	5	Quiet—nerve	19
Wish—desire	Bible—teachings	2	Green—substance	19
River—house	Memory—teaching	2	Salt—taste	19
White—suspicion	Sheep—God	6	Street—heavens	15
Beautiful—house	Bath—cleanness	6	King—servant	6
Window—light	Cottage—home	19	Cheese—taste	19
Rough—surface	Swift—fear	19	Blossom—sight	19
Citizen—parent	Blue—color	19	Afraid—fear	19
Foot—house	Hungry—appetite	19		
Spider—insect	Priest—servant	19		

CASE No. 6164.—L. E. Remarkably persistent tendency to give sound reactions; numerous sound neologisms; no reactions given in response to some of the stimulus words on the ground that she had "no word to match."

Table—witchhazel .....10	Needle—dreedle ..... 3	Ocean—notion .....10
Dark—frog .....19	Red—shred .....10	Head—shred .....10
Music—lessons ..... 2	Sleep—seef ..... 3	Stove—shove ..... 3
Sickness—badness ..... 2	Anger—	Long—song .....10
Man—wife ..... 4	Carpet—shloppet ..... 3	Religion—switching .....19
Deep—seef ..... 4	Girl—ahiri ..... 3	Whiskey—chiston ..... 4
Soft—shoft ..... 3	High—fie .....10	Child—kile ..... 3
Eating—feeding ..... 3	Working—shlirking ..... 3	Bitter—shitter ..... 3
Mountain—sounding .....10	Sour—bower .....10	Hammer—lemon .....13
House—ahmouse ..... 3	Earth—world ..... 3	Thirsty—firsten ..... 3
Black—fake .....19	Trouble—shuttle .....19	City—
Mutton—shutton ..... 3	Soldier—polster ..... 3	Square—birds .....19
Comfort—somfort ..... 3	Cabbage—sheflies ..... 4	Butter—shudder .....10
Hand—land .....10	Hard—ahward ..... 3	Doctor—shocter ..... 3
Short—court .....10	Eagle—	Loud—souse .....10
Fruit—shrewd .....10	Stomach—	Thief—sheaf .....10
Butterfly—shuddergergy ..... 3	Stem—lamp .....19	Lion—Zion .....10
Smooth—slude ..... 3	Lamp—sant ..... 4	Joy—bloy ..... 3
Command—noman ..... 3	Dream—leam ..... 3	Bed—wading .....19
Chair—sash .....19	Yellow—cherry .....19	Heavy—shleavy ..... 3
Sweet—leaf .....19	Bread—dread .....10	Tobacco—confecker ..... 4
Whistle—nohissel ..... 3	Justice—chestnuts .....10	Baby—savy ..... 3
Woman—lemon .....19	Boy—	Moon—shoon ..... 3
Cold—shoal .....10	Light—ahwife ..... 3	Scissors—
Slow—snow .....10	Health—felt ..... 2	Quiet—shiet ..... 3
Wish—diah ..... 3	Bible—	Green—sheel ..... 4
River—liberty .....10	Memory—	Salt—shawlt ..... 3
White—size .....10	Sheep—sheet .....10	Street—freet ..... 3
Beautiful—	Bath—scab .....19	King—sing .....10
Window—Hilda .....19	Cottage—foppach ..... 3	Cheese—seefs ..... 4
Rough—shoff ..... 3	Swift—shift .....10	Blossom—pleasant ..... 9
Citizen—shifizen ..... 3	Blue—shoe .....10	Afraid—shraid ..... 3
Foot—shoot .....10	Hungry—angry ..... 3	
Spider—shider ..... 3	Priest—sheaf .....19	

CASE No. 3606.—F. W. Neologisms; some particles; many unclassified reactions, mostly incoherent.

Table—pleasure ..... 9	Needle—pleasant ..... 9	Ocean—apology .....19
Dark—air .....19	Red—permit .....19	Head—trinity .....19
Music—walking .....19	Sleep—indeed .....12	Stove—compartment .....19
Sickness—gloves .....19	Anger—benevolence .....19	Long—terminal .....19
Man—fields .....19	Carpet—disorder .....19	Religion—abundant .....19
Deep—courtesy .....19	Girl—caterer .....19	Whiskey—approvement ..... 4
Soft—spoons .....19	High—aside .....10	Child—anger .....15
Eating—oranges ..... 3	Working—among .....12	Bitter—courageous .....19
Mountain—ice .....17	Sour—destroy .....19	Hammer—correction .....19
House—paintings ..... 2	Earth—confusion .....19	Thirsty—afterwards .....12
Black—blue ..... 3	Trouble—frivolous .....19	City—cataract .....19
Mutton—hemisphere .....19	Soldier—air .....15	Square—plenty .....19
Comfort—flowers .....19	Cabbage—temptation .....19	Butter—accost .....19
Hand—sawdust .....19	Hard—among .....12	Doctor—southern .....19
Short—peanuts .....19	Eagle—quality .....19	Loud—triangular .....19
Fruit—autoharp .....19	Stomach—debasteaur ..... 4	Thief—cannery .....19
Butterfly—disease .....19	Stem—counteract .....19	Lion—practice .....19
Smooth—ice ..... 3	Lamp—testament .....19	Joy—summons .....19
Command—botheration .....19	Dream—connexus ..... 4	Bed—avron ..... 4
Chair—tea .....19	Yellow—division .....19	Heavy—olenthegolis ..... 4
Sweet—arrangement .....19	Bread—atherey ..... 4	Tobacco—abundant .....15
Whistle—steadfast .....19	Justice—anger .....19	Baby—parenthus ..... 4
Woman—flowers .....15	Boy—quality .....15	Moon—otherwise .....12
Cold—grandeur .....19	Light—among .....12	Scissors—cartridge .....19
Slow—present .....19	Health—frivolous .....15	Quiet—outside .....12
Wish—mania .....19	Bible—permit .....15	Green—abounty ..... 4
River—courtesy .....15	Memory—usual .....19	Salt—calony ..... 4
White—ink .....17	Sheep—astray ..... 3	Street—abyss .....19
Beautiful—flowers ..... 3	Bath—conscientious .....19	King—cavenry ..... 4
Window—air ..... 3	Cottage—texalous ..... 4	Cheese—perplex .....19
Rough—enjoyment .....19	Swift—patience .....19	Blossom—cartridge .....15
Citizen—queer .....19	Blue—community .....19	Afraid—stubborn .....19
Foot—hatred .....19	Hungry—confusion .....15	
Spider—carousy ..... 4	Priest—second .....19	

## EPILEPSY.

Most of the cases of epilepsy in our collection show advanced dementia and in some the clinical history would indicate also original mental inferiority, that is to say, imbecility or feeble-mindedness.

In these cases the dominant characteristic, so far as shown in the test records, seems to be a narrowing of the mental horizon manifested firstly by a tendency to repeat many times one or another word, and secondly by an abnormally pronounced tendency to make use of non-specific reactions or particles of speech. Occasionally other abnormalities are noted, such as perseveration or distraction.

We submit here copies of some test records.

CASE No. 5410.—W. T. K. Repetition of words previously given; non-specific reactions.

Table—article .....	1	Needle—article .....	1	Ocean—body .....	
Dark—light .....		Red—color .....		Head—member .....	
Music—tone .....		Sleep—rest .....		Stove—article .....	1
Sickness—ill .....		Anger—condition .....	6	Long—distance .....	
Man—person .....	1	Carpet—covering .....		Religion—profession .....	
Deep—distant .....	2	Girl—female .....		Whiskey—liquid .....	
Soft—condition .....	6	High—distance .....		Child—person .....	1
Eating—chew .....		Working—occupation .....		Bitter—condition .....	6
Mountain—high .....		Sour—condition .....	6	Hammer—article .....	1
House—abode .....		Earth—planet .....		Thirsty—condition .....	6
Black—color .....		Trouble—condition .....	6	City—place .....	
Mutton—meat .....		Soldier—member .....	6	Square—honest .....	
Comfort—peace .....		Cabbage—vegetable .....		Butter—article .....	6
Hand—limb .....		Hard—condition .....	6	Doctor—profession .....	
Short—distance .....		Eagle—animal .....		Loud—sound .....	
Fruit—result .....		Stomach—member .....		Thief—position .....	15
Butterfly—animal .....		Stem—branch .....		Lion—animal .....	
Smooth—plain .....		Lamp—article .....	1	Joy—pleasant .....	1
Command—order .....		Dream—thinking .....	1	Bed—article .....	6
Chair—seat .....		Yellow—shade .....		Heavy—weight .....	
Sweet—pleasant .....	1	Bread—article .....	6	Tobacco—plant .....	
Whistle—sound .....		Justice—position .....	19	Baby—person .....	1
Woman—female .....		Boy—male .....		Moon—planet .....	
Cold—chilly .....		Light—clear .....		Scissors—article .....	1
Slow—pace .....		Health—condition .....		Quiet—peaceful .....	
Wish—desire .....		Bible—book .....		Green—shade .....	
River—body .....		Memory—condition .....	6	Salt—article .....	1
White—clear .....		Sheep—animal .....		Street—place .....	
Beautiful—grand .....		Bath—position .....	15	King—ruler .....	
Window—place .....	13	Cottage—house .....		Cheese—article .....	6
Rough—unsmooth .....	4	Swift—fast .....		Blossom—plant .....	
Citizen—member .....		Blue—color .....		Afraid—fear .....	
Foot—member .....		Hungry—condition .....	6		
Spider—animal .....		Priest—office .....			



CASE No. 2208.—J. A. Repetition of words previously given; non-specific reactions.

Table—wood .....	Needle—clothes .....	Ocean—deep .....
Dark—chairs .....	Red—blood .....	Head—bad .....
Music—wood .....	Sleep—bed .....	Stove—wood .....
Sickness—dropsy .....	Anger—angry .....	Long—trees .....
Man—body .....	Carpet—stores .....	Religion—form .....
Deep—well .....	Girl—ladies .....	Whiskey—apples .....
Soft—lady .....	High—mountain .....	Child—people .....
Eating—man .....	Working—people .....	Bitter—apples .....
Mountain—hills .....	Sour—fruit .....	Hammer—axe .....
House—barns .....	Earth—clay .....	Thirsty—drink .....
Black—horse .....	Trouble—bad .....	City—towns .....
Mutton—sheep .....	Soldier—man .....	Square—measurement .....
Comfort—poison .....	Cabbage—field .....	Butter—cows .....
Hand—man .....	Hard—case .....	Doctor—person .....
Short—people .....	Eagle—bird .....	Loud—people .....
Fruit—trees .....	Stomach—man .....	Thief—person .....
Butterfly—tree .....	Stem—pipe .....	Lion—animal .....
Smooth—people .....	Lamp—fire .....	Joy—person .....
Command—general .....	Dream—bad .....	Bed—man .....
Chair—hands .....	Yellow—chair .....	Heavy—mountain .....
Sweet—fruit .....	Bread—rye .....	Tobacco—growing .....
Whistle—man .....	Justice—right .....	Baby—person .....
Woman—people .....	Boy—bad .....	Moon—people .....
Cold—ice .....	Light—ship .....	Scissors—cutting .....
Slow—people .....	Health—pig .....	Quiet—mind .....
Wish—dead .....	Bible—man .....	Green—cloud .....
River—lakes .....	Memory—mind .....	Salt—planting .....
White—foam .....	Sheep—mutton .....	Street—walk .....
Beautiful—man .....	Bath—water .....	King—human .....
Window—glass .....	Cottage—house .....	Cheese—milk .....
Rough—people .....	Swift—ship .....	Blossom—flowers .....
Citizen—man .....	Blue—lines .....	Afraid—human .....
Foot—people .....	Hungry—people .....	
Spider—barn .....	Priest—man .....	

CASE No. 01218.—E. M. Repetition of words previously given; non-specific reactions.

Table—tablecloth .....	Needle—use .....	Ocean—useful .....
Dark—dog .....	Red—look .....	Head—nice .....
Music—figure .....	Sleep—good .....	Stove—lighted .....
Sickness—drink .....	Anger—no .....	Long—lake .....
Man—people .....	Carpet—make .....	Religion—pleasant .....
Deep—pull .....	Girl—happy .....	Whiskey—use .....
Soft—light .....	High—nice .....	Child—help .....
Eating—think .....	Working—pleasant .....	Bitter—sour .....
Mountain—well .....	Sour—bag .....	Hammer—stick .....
House—plumber .....	Earth—ground .....	Thirsty—drink .....
Black—horse .....	Trouble—good .....	City—handy .....
Mutton—park .....	Soldier—clothes .....	Square—pleasant .....
Comfort—nice .....	Cabbage—eat .....	Butter—useful .....
Hand—use .....	Hard—good .....	Doctor—help .....
Short—long .....	Eagle—pleasant .....	Loud—make .....
Fruit—figs .....	Stomach—hurt .....	Thief—punish .....
Butterfly—cloth .....	Stem—use .....	Lion—bad .....
Smooth—nice .....	Lamp—lighted .....	Joy—happy .....
Command—pleasant .....	Dream—pleasant .....	Bed—pleasant .....
Chair—wash .....	Yellow—wake .....	Heavy—light .....
Sweet—sour .....	Bread—making .....	Tobacco—pleasant .....
Whistle—mug .....	Justice—help .....	Baby—help .....
Woman—pear .....	Boy—pleasant .....	Moon—sun .....
Cold—warm .....	Light—big .....	Scissors—pleasant .....
Slow—quickness .....	Health—nice .....	Quiet—sleep .....
Wish—nice .....	Bible—use .....	Green—beans .....
River—pleasant .....	Memory—no .....	Salt—handy .....
White—use .....	Sheep—pleasant .....	Street—make .....
Beautiful—comfort .....	Bath—good .....	King—nice .....
Window—looks .....	Cottage—useful .....	Cheese—good .....
Rough—pleasant .....	Swift—quick .....	Blossom—pleasant .....
Citizen—comfort .....	Blue—good .....	Afraid—will .....
Foot—help .....	Hungry—sour .....	
Spider—wake .....	Priest—good .....	

CASE No. 4989.—C. H. Repetition of words previously given; non-specific reactions; particles.

Table—work	1	Needle—steel		Ocean—three	12
Dark—true	19	Red—color		Head—good	1
Music—pleasant	1	Sleep—plenty		Stove—burning	
Sickness—well		Anger—never		Long—medium	
Man—absent	19	Carpet—floor		Religion—willing	15
Deep—together	12	Girl—five	12	Whiskey—some	19
Soft—plenty	6	High—medium		Child—good	1
Eating—good	1	Working—always		Bitter—never	6
Mountain—together	12	Sour—never	6	Hammer—tool	
House—one	12	Earth—cultivate	17	Thirsty—seldom	6
Black—America	19	Trouble—none		City—New York	
Mutton—vegetable	2	Soldier—willing	15	Square—always	6
Comfort—sleep		Cabbage—vegetable		Butter—good	1
Hand—nothing	19	Hard—seldom	12	Doctor—good	1
Short—never	12	Eagle—American		Loud—medium	6
Fruit—vegetable		Stomach—no	12	Thief—none	
Butterfly—bird		Stem—one	12	Lion—animal	
Smooth—large	9	Lamp—burning		Joy—plenty	6
Command—willing		Dream—always	6	Bed—good	1
Chair—good	6	Yellow—sometimes	12	Heavy—medium	6
Sweet—always	6	Bread—soft		Tobacco—yes	12
Whistle—music		Justice—always		Baby—more	19
Woman—one	12	Boy—two	12	Moon—bright	
Cold—medium	6	Light—plenty		Scissors—sharp	
Slow—quick		Health—plenty		Quiet—plenty	6
Wish—hope		Bible—Catholic	17	Green—good	6
River—lake		Memory—good	1	Salt—little	19
White—always	6	Sheep—wool		Street—lots	18
Beautiful—medium	6	Bath—good	1	King—none	
Window—open		Cottage—plenty	6	Cheese—seldom	6
Rough—smooth		Swift—medium	6	Blossom—always	6
Citizen—American		Blue—never	6	Afraid—sometimes	15
Foot—two		Hungry—seldom	6		
Spider—butterfly		Priest—good	1		

CASE No. 4847.—C. C. Distraction.

Table—eat		Needle—scissors	17	Ocean—beans	19
Dark—lock	10	Red—blue		Head—prunes	18
Music—fiddle		Sleep—pink	18	Stove—cook	
Sickness—doctors	2	Anger—box	19	Long—fig	19
Man—woman	1	Carpet—rug		Religion—church	
Deep—water		Girl—boy		Whiskey—tea	17
Soft—snow		High—play		Child—people	1
Eating—oats	17	Working—cup	19	Bitter—stomach	19
Mountain—spray	19	Sour—bread	17	Hammer—tack	
House—building		Earth—picture	19	Thirsty—peach	15
Black—red	15	Trouble—soap	19	City—box	15
Mutton—meat	9	Soldier—towel	18	Square—soap	15
Comfort—red	15	Cabbage—turnip		Butter—lard	
Hand—people	9	Hard—tree		Doctor—sick	
Short—world	19	Eagle—clock	19	Loud—head	19
Fruit—age	18	Stomach—eat		Thief—cup	15
Butterfly—bird		Stem—soap	15	Lion—bottle	15
Smooth—eggs	18	Lamp—oil		Joy—pitcher	19
Command—cake	19	Dream—glass	13	Bed—sheet	
Chair—world	15	Yellow—bottle	18	Heavy—blanket	13
Sweet—cherries		Bread—soap	15	Tobacco—mustard	19
Whistle—peaches	18	Justice—pencil	19	Baby—pepper	18
Woman—children		Boy—picture	15	Moon—heater	19
Cold—summer	17	Light—darkness		Scissors—string	
Slow—brother	19	Health—washstand	19	Quiet—lace	19
Wish—pear	19	Bible—book		Green—red	
River—orange	18	Memory—saucer	19	Salt—soda	17
White—black		Sheep—chair	19	Street—soldier	19
Beautiful—red	18	Bath—bureau	14	King—box	15
Window—door		Cottage—pan	19	Cheese—cake	
Rough—table		Swift—towel	15	Blossom—shell	19
Citizen—couch	19	Blue—wash	2	Afraid—blotter	19
Foot—arm		Hungry—eat			
Spider—fly		Priest—church			

## CASE No. 3597.—L. T. Some neologisms, all possessing obvious meaning.

Table—stand .....	Needle—pin .....	Ocean—sea .....
Dark—light .....	Red—blue .....	Head—topness ..... 4
Music—instrument .....	Sleep—awake .....	Stove—cooking .....
Sickness—health .....	Anger—patient ..... 2	Long—shorter ..... 2
Man—female .....	Carpet—rug .....	Religion—wickedness ...
Deep—deftableness ..... 4	Girl—servant .....	Whiskey—medicine .....
Soft—hard .....	High—low .....	Child—daughter .....
Eating—starving .....	Working—laziness .....	Bitter—sweetness ..... 2
Mountain—isthmus .....17	Sour—sweet .....	Hammer—pickaxe .....17
House—building .....	Earth—hemisphere .....	Thirsty—drinkness ..... 4
Black—white .....	Trouble—goodness ..... 9	City—village .....
Mutton—beef .....	Soldier—merchant .....17	Square—straightness .... 2
Comfort—patient .....	Cabbage—pumpkin .....17	Butter—syrup .....17
Hand—leg .....	Hard—tight .....	Doctor—queen .....19
Short—long .....	Eagle—hawk .....	Loud—low .....
Fruit—vegetable .....	Stomach—abdomen .....	Thief—burglar .....
Butterfly—spider .....	Stem—leaf .....	Lion—tiger .....
Smooth—coarse .....	Lamp—lantern .....	Joy—enjoyable ..... 2
Command—thought .... 1	Dream—nightmare .....	Bed—bedstead .....
Chair—utensil .....19	Yellow—lavender .....17	Heavy—lightness .....
Sweet—sour .....	Bread—pastry .....	Tobacco—sweetness ..... 2
Whistle—trumpet .....	Justice—badness ..... 2	Baby—infant .....
Woman—man .....	Boy—child .....	Moon—sun .....
Cold—warm .....	Light—darkness .....	Scissors—shears .....
Slow—quick .....	Health—sickness .....	Quiet—noisiness .. 4
Wish—command .....	Bible—testament .....	Green—greenbill ..... 3
River—lake .....	Memory—remember .....	Salt—sugar .....
White—black .....	Sheep—lamb .....	Street—Island .....19
Beautiful—pretty ..... 1	Bath—dirtiness ..... 2	King—nephew .....19
Window—door .....	Cottage—building .....	Cheese—curdness ..... 4
Rough—straight .....	Swift—quickly .....	Blossom—bud .....
Citizen—tramp .....19	Blue—redness ..... 2	Afraid—knowledgeable .. 4
Foot—arm .....	Hungry—starving .....	
Spider—fly .....	Priest—minister .....	

## GENERAL PARESIS.

Cases presenting no considerable dementia or confusion and cases in a state of remission are apt to give normal test records. As we proceed from the records of such cases to those of cases showing mental deterioration we observe a gradual reduction in the values of reactions, contraction of the mental horizon,<sup>1</sup> and the appearance of the phenomenon of perseveration. We submit the following test records for illustration:

<sup>1</sup>What we mean by contraction of the mental horizon has already been described in connection with epilepsy, page 182.

CASE No. 4047.—C. A. F. Almost complete remission of all mental symptoms. Normal record.

Table—dish .....	Needle—sharp .....	Ocean—sea .....
Dark—light .....	Red—color .....	Head—top .....
Music—sound .....	Sleep—slumber .....	Stove—fire .....
Sickness—disease .....	Anger—rage .....	Long—short .....
Man—woman ..... 1	Carpet—sweep .....	Religion—holy .....
Deep—fathomless .....	Girl—maiden .....	Whiskey—drink .....
Soft—sweet .....	High—lofty .....	Child—infant .....
Eating—food .....	Working—tolling .....	Bitter—sour .....
Mountain—high .....	Sour—distasteful .....	Hammer—knock .....
House—barn .....	Earth—ground .....	Thirsty—drink .....
Black—color .....	Trouble—sorrow .....	City—town .....
Mutton—meat .....	Soldier—fighter .....	Square—round .....
Comfort—ease .....	Cabbage—leaf .....	Butter—eat .....
Hand—foot .....	Hard—easy .....	Doctor—physician .....
Short—long .....	Eagle—fly .....	Loud—knock .....
Fruit—sweet .....	Stomach—food .....	Thief—steal .....
Butterfly—moth .....	Stem—petal .....	Lion—tiger .....
Smooth—rough .....	Lamp—light .....	Joy—happiness ..... 1
Command—order .....	Dream—slumber .....	Bed—sleep .....
Chair—leg .....	Yellow—color .....	Heavy—weigh .....
Sweet—pleasant ..... 1	Bread—eat .....	Tobacco—smoke .....
Whistle—sound .....	Justice—judgment .....	Baby—child .....
Woman—female .....	Boy—youth .....	Moon—stars .....
Cold—ice .....	Light—lamp .....	Scissors—cut .....
Slow—languid ..... 17	Health—nature ..... 17	Quiet—soft .....
Wish—desire .....	Bible—holy .....	Green—color .....
River—long .....	Memory—remember .....	Salt—food .....
White—color .....	Sheep—lamb .....	Street—lane .....
Beautiful—fair .....	Bath—water .....	King—queen .....
Window—glass .....	Cottage—house .....	Cheese—eat .....
Rough—smooth .....	Swift—fast .....	Blossom—flower .....
Citizen—voter .....	Blue—color .....	Afraid—fear .....
Foot—toe .....	Hungry—famished .....	
Spider—fly .....	Priest—holy .....	

CASE No. 6660.—F. F. Repetition of words previously given; non-specific reactions; unclassified reactions some of which are “circumstantial” (see page 16).

Table—bureau ..... 19	Needle—saw .....	Ocean—boats .....
Dark—boats ..... 2	Red—nice ..... 6	Head—brains .....
Music—piano .....	Sleep—rest .....	Stove—heat .....
Sickness—doctor .....	Anger—cross .....	Long—streets .....
Man—sober ..... 19	Carpet—good .....	Religion—Catholic .....
Deep—cellar .....	Girl—nice ..... 1	Whiskey—bad ..... 1
Soft—easy .....	High—good ..... 1	Child—good ..... 1
Eating—chewing .....	Working—well ..... 19	Bitter—sorrow ..... 1
Mountain—climb .....	Sour—bitter .....	Hammer—use ..... 1
House—tenants ..... 2	Earth—property ..... 19	Thirsty—drink .....
Black—color .....	Trouble—fighting .....	City—Brooklyn .....
Mutton—meat .....	Soldier—good ..... 1	Square—parks ..... 2
Comfort—easy .....	Cabbage—eat .....	Butter—ice ..... 19
Hand—use ..... 1	Hard—sorry ..... 19	Doctor—cure .....
Short—stump ..... 2	Eagle—good ..... 6	Loud—holler .....
Fruit—nice ..... 1	Stomach—good ..... 1	Thief—no ..... 2
Butterfly—like ..... 6	Stem—fair ..... 19	Lion—no ..... 6
Smooth—clean .....	Lamp—use ..... 1	Joy—hope .....
Command—faithful ..... 17	Dream—now ..... 12	Bed—rest .....
Chair—easy .....	Yellow—color .....	Heavy—load .....
Sweet—like ..... 6	Bread—good ..... 1	Tobacco—good ..... 1
Whistle—good ..... 6	Justice—fine ..... 1	Baby—good ..... 1
Woman—like ..... 6	Boy—good ..... 1	Moon—light .....
Cold—medicine .....	Light—good ..... 1	Scissors—use ..... 1
Slow—I ..... 12	Health—right ..... 19	Quiet—good ..... 1
Wish—like .....	Bible—home ..... 1	Green—nice ..... 6
River—boats .....	Memory—good ..... 1	Salt—use ..... 1
White—sheet .....	Sheep—like ..... 6	Street—nice ..... 1
Beautiful—flowers .....	Bath—good ..... 1	King—right ..... 19
Window—red ..... 14	Cottage—fine ..... 1	Cheese—nice ..... 1
Rough—streets ..... 2	Swift—go .....	Blossom—grow .....
Citizen—honest .....	Blue—nice ..... 6	Afraid—no .....
Foot—walking .....	Hungry—bad ..... 1	
Spider—kill ..... 19	Priest—Father .....	

CASE No. 6185.—R. N. Numerous particles of speech; some unclassified reactions, chiefly "circumstantial" (see page 16).

Table—eat .....	Needle—sewing .....	Ocean—water .....
Dark—cloudy .....	Red—blue .....	Head—human .....
Music—fond .....19	Sleep—nap .....17	Stove—coal .....
Sickness—well .....	Anger—willing .....19	Long—short .....
Man—human .....	Carpet—yes .....6	Religion—yes .....6
Deep—ocean .....	Girl—nature .....19	Whiskey—no .....12
Soft—fine .....1	High—low .....	Child—baby .....
Eating—yes .....6	Working—artist .....17	Bitter—sweet .....
Mountain—yes .....5	Sour—sweet .....	Hammer—pincher .....17
House—yes .....5	Earth—world .....	Thirsty—drinking .....
Black—yes .....5	Trouble—peaceful .....	City—population .....
Mutton—yes .....5	Soldier—no .....12	Square—circle .....
Comfort—yes .....5	Cabbage—vegetable .....	Butter—lard .....
Hand—finger .....	Hard—soft .....	Doctor—physician .....
Short—yes .....6	Eagle—American .....	Loud—low .....
Fruit—yes .....5	Stomach—condition .....	Thief—penalty .....17
Butterfly—yes .....5	Stem—post .....17	Lion—lar .....10
Smooth—even .....	Lamp—light .....	Joy—welcome .....17
Command—obey .....	Dream—thinking .....1	Bed—sleep .....
Chair—settle .....17	Yellow—green .....	Heavy—light .....
Sweet—bitter .....	Bread—loaf .....	Tobacco—yes .....6
Whistle—can't .....19	Justice—yes .....	Baby—human .....
Woman—lady .....	Boy—human .....	Moon—natural .....15
Cold—ice .....	Light—heaven .....	Scissors—no .....12
Slow—fast .....	Health—wealth .....	Quiet—yes .....6
Wish—give .....	Bible—yes .....6	Green—shade .....
River—enjoyment .....19	Memory—yes .....5	Salt—eat .....
White—black .....	Sheep—animal .....	Street—town .....
Beautiful—yes .....6	Bath—yes .....6	King—ruler .....
Window—pane .....	Cottage—yes .....5	Cheese—eat .....
Rough—smooth .....	Swift—fast .....	Blossom—blooming .....
Citizen—yes .....6	Blue—gray .....	Afraid—scared .....
Foot—one .....12	Hungry—no .....	
Spider—yes .....6	Priest—yes .....6	

CASE No. 6518.—C. Z. Perseveration shown by numerous instances of association to preceding reaction.

Table—horse .....19	Needle—pin .....	Ocean—mother .....18
Dark—wren .....19	Red—blue .....	Head—brother .....18
Music—lark .....18	Sleep—awake .....	Stove—sister .....18
Sickness—cold .....	Anger—bad .....1	Long—freedom .....15
Man—woman .....1	Carpet—sweeper .....	Religion—smart .....19
Deep—sea .....	Girl—boy .....	Whiskey—wine .....
Soft—hard .....	High—low .....	Child—lamb .....19
Eating—drinking .....	Working—playing .....	Bitter—goat .....18
Mountain—fountain .....	Sour—sweet .....	Hammer—nails .....
House—barn .....	Earth—ground .....	Thirsty—dry .....
Black—stable .....13	Trouble—wheelbarrow .....19	City—talking .....19
Mutton—cow .....	Soldier—Mexican .....17	Square—inches .....
Comfort—horse .....18	Cabbage—potatoes .....	Butter—cheese .....
Hand—lamb .....18	Hard—beets .....18	Doctor—bread .....13
Short—calf .....18	Eagle—carrots .....18	Loud—oranges .....15
Fruit—apples .....18	Stomach—peas .....18	Thief—almonds .....18
Butterfly—oranges .....2	Stem—peas .....5	Lion—apples .....18
Smooth—peaches .....18	Lamp—burning .....	Joy—grapes .....18
Command—plums .....18	Dream—happy .....1	Bed—peaches .....18
Chair—bench .....	Yellow—blue .....	Heavy—cranberries .....18
Sweet—sugar .....	Bread—green .....13	Tobacco—grapes .....18
Whistle—drum .....17	Justice—freedom .....	Baby—watermelons .....18
Woman—man .....1	Boy—girl .....	Moon—muskmelons .....18
Cold—hot .....	Light—burning .....	Scissors—citrons .....10
Slow—fast .....	Health—strength .....	Quiet—squashes .....18
Wish—who .....12	Bible—prayerbook .....	Green—pumpkins .....18
River—water .....	Memory—thoughts .....1	Salt—cucumbers .....18
White—blue .....	Sheep—lamb .....	Street—tomatoes .....18
Beautiful—splendid .....	Bath—water .....	King—pears .....18
Window—sashes .....2	Cottage—house .....	Cheese—apples .....18
Rough—ready .....	Swift—whist .....10	Blossom—cherries .....
Citizen—Brooklyn .....	Blue—red .....	Afraid—gooseberries .....18
Foot—shoe .....	Hungry—eating .....	
Spider—web .....	Priest—Father .....	

CASE No. 5329.—B. W. Perseveration; record almost entirely made up of instances of association to preceding reaction.

Table—San Francisco ..19	Needle—Texas ..18	Ocean—lake ..13
Dark—comprehensible ..19	Red—North Carolina ..18	Head—bay ..13
Music—singing ..19	Sleep—Florida ..18	Stove—sound ..18
Sickness—Brooklyn ..19	Anger—Seattle ..18	Long—Island ..13
Man—woman ..1	Carpet—Nevada ..18	Religion—Boston ..18
Deep—amazing ..19	Girl—Iowa ..15	Whiskey—Harvard ..18
Soft—pleasant ..9	High—Virginia ..18	Child—Yale ..18
Eating—digesting ..18	Working—Louisiana ..18	Bitter—Columbia ..18
Mountain—gulf ..17	Sour—Hawaii ..18	Hammer—library ..18
House—peninsula ..18	Earth—Connecticut ..18	Thirsty—Carnegie ..18
Black—Constantinople ..18	Trouble—Rhode Island ..18	City—Rockefeller ..18
Mutton—Bermuda ..18	Soldier—Vermont ..18	Square—Harriman ..18
Comfort—Los Angeles ..18	Cabbage—Massachusetts ..18	Butter—Leggitt ..18
Hand—Cuba ..18	Hard—Hudson ..18	Doctor—Lincoln ..18
Short—cities ..18	Eagle—East River ..18	Loud—Roosevelt ..18
Fruit—Iowa ..18	Stomach—Staten Island ..18	Thief—Taft ..18
Butterfly—England ..18	Stem—Kings Park ..18	Lion—Gaynor ..18
Smooth—Russia ..18	Lamp—Fort Lee ..18	Joy—Slocum ..18
Command—Turkey ..18	Dream—Long Island ..18	Bed—Grant ..18
Chair—Manila ..18	Yellow—Greenport ..18	Heavy—McClellan ..18
Sweet—Porto Rico ..18	Bread—Southold ..18	Tobacco—Spain ..19
Whistle—Washington ..18	Justice—Northport ..18	Baby—New London ..18
Woman—Cincinnati ..18	Boy—New Jersey ..18	Moon—Newburgh ..18
Cold—Pittsburg ..18	Light—Rome ..18	Scissors—Troy ..18
Slow—Philadelphia ..18	Health—Italy ..18	Quiet—Schenectady ..18
Wish—Milwaukee ..18	Bible—Episcopal ..17	Green—Lake George ..18
River—St. Louis ..18	Memory—Methodist ..18	Salt—Vienna ..18
White—Japan ..18	Sheep—Congregational ..18	Street—Alsace Lorraine ..18
Beautiful—China ..18	Bath—Baptist ..18	King—Garfield ..17
Window—Berlin ..18	Cottage—minister ..18	Cheese—McKinley ..18
Rough—Glasgow ..18	Swift—physician ..18	Blossom—Bryan ..18
Citizen—London ..18	Blue—horse ..18	Afraid—Blaine ..18
Foot—Dublin ..18	Hungry—cow ..18	
Spider—Sacramento ..18	Priest—Catholics ..18	

#### MANIC-DEPRESSIVE INSANITY.

In this disorder the departures from the normal seem to be less pronounced than in the psychoses considered above. The number of individual reactions is in most cases not greatly above the normal average; and, so far as their character is concerned, we find that many of them are classed as normal, in accordance with the appendix to the frequency tables; among the unclassified reactions, which are quite frequent here, we find mostly either obviously normal ones, or some of the type to which we have already referred as "far-fetched," while others among them are "circumstantial" (see p. 16); further we find that most of the remaining individual reactions fall into the general group of partial dissociation: non-specific reactions, sound reactions, word complements, and particles.

In some cases the only abnormality that is found is that of an undue tendency to respond by non-specific reactions, most of them being common and there being no excessive number of individual reactions. It would seem legitimate to assume that this tendency

is here to be regarded as a manifestation of the phenomenon which is clinically described as *dearth of ideas*. It is significant that this tendency is observed not only in depressive phases of the psychosis, but also in manic phases and even in the normal intervals of recurrent cases or after apparent recovery in acute cases; this will be seen from some of the test records which are here reproduced.

Occasionally cases are met with which give a large number of unclassified reactions, seemingly incoherent. There can be no doubt that at least some of these cases are clinically perfectly typical ones of manic-depressive insanity, yet the test records strongly resemble, in some respects, those of dementia præcox. Since clinically the distinction between typical cases of these psychoses can be so clearly made on the basis of the disorders of the flow of thought respectively characterizing them, it could hardly be assumed that the associational disturbances in these two groups of cases are truly related, although there may be an apparent resemblance; it must be acknowledged that we are here confronted with one of the most serious shortcomings of the association test, or at least of the present method of applying it.

CASE No. 5236.—M. B. Depressive attack. Normal record.

Table—eat .....	Needle—sew .....	Ocean—water .....
Dark—night .....	Red—color .....	Head—body .....
Music—play .....	Sleep—rest .....	Stove—fire .....
Sickness—death .....	Anger—badness .....	Long—tall .....
Man—health .....18	Carpet—floor .....	Religion—teaching .....
Deep—depth .....	Girl—young .....	Whiskey—drink .....
Soft—hard .....	High—low .....	Child—young .....
Eating—chewing .....	Working—busy .....	Bitter—sweet .....
Mountain—high .....	Sour—sweet .....	Hammer—nail .....
House—living .....	Earth—live .....	Thirsty—drink .....
Black—color .....	Trouble—grief .....	City—town .....
Mutton—sheep .....	Soldier—army .....	Square—four .....
Comfort—kind .....2	Cabbage—garden .....	Butter—eat .....
Hand—body .....	Hard—stone .....	Doctor—medicine .....
Short—small .....1	Eagle—bird .....	Loud—noise .....
Fruit—garden .....	Stomach—body .....	Thief—steal .....
Butterfly—spring .....	Stem—plant .....	Lion—beast .....
Smooth—rough .....	Lamp—light .....	Joy—kind .....6
Command—obey .....	Dream—sleep .....	Bed—sleep .....
Chair—sit .....	Yellow—color .....	Heavy—weight .....
Sweet—apple .....	Bread—eat .....	Tobacco—smoke .....
Whistle—music .....	Justice—kind .....2	Baby—mother .....
Woman—kind .....	Boy—young .....	Moon—light .....
Cold—chilly .....	Light—day .....	Scissors—cut .....
Slow—easy .....	Health—strength .....	Quiet—kind .....6
Wish—want .....	Bible—Christ .....	Green—grass .....
River—water .....	Memory—think .....1	Salt—table .....
White—color .....	Sheep—mutton .....	Street—walk .....
Beautiful—grand .....	Bath—clean .....	King—government .....
Window—light .....	Cottage—live .....	Cheese—eat .....
Rough—smooth .....1	Swift—run .....	Blossom—tree .....
Citizen—man .....	Blue—color .....	Afraid—coward .....
Foot—body .....	Hungry—food .....	
Spider—animal .....	Priest—clergy .....	

CASE No. 6120.—M. L. Maniacal attack. Fifteen individual reactions, of which 11 are classed as normal in accordance with the appendix to the frequency tables.

Table—chair .....	Needle—doctor .....19	Ocean—sea .....
Dark—light .....	Red—white .....	Head—neck .....
Music—chorus .....17	Sleep—well .....	Stove—electricity .....17
Sickness—health .....	Anger—passion .....	Long—broad .....
Man—woman ..... 1	Carpet—cloth .....	Religion—Presbyterian ..
Deep—around .....	Girl—boy .....	Whiskey—medicinal .... 2
Soft—light .....	High—low .....	Child—boy .....
Eating—food .....	Working—pleasure .... 1	Bitter—sweet .....
Mountain—valley .....	Sour—sweet .....	Hammer—saw .....
House—flat .....17	Earth—heaven .....	Thirsty—water .....
Black—white .....	Trouble—anger .....	City—Middletown .....17
Mutton—beef .....	Soldier—mine .....12	Square—Madison .....
Comfort—disease .....	Cabbage—steak .....17	Butter—bread .....
Hand—legs .....	Hard—soft .....	Doctor—love .....15
Short—tall .....	Eagle—parrot .....	Loud—soft .....
Fruit—grapes .....	Stomach—pelvis .....17	Thief—burglar .....
Butterfly—birds .....	Stem—flowers .....	Lion—animal .....
Smooth—rough .....	Lamp—light .....	Joy—ecstasy .....
Command—president ....17	Dream—empty .....17	Bed—couch .....
Chair—assemblyman ....18	Yellow—black .....	Heavy—lead .....
Sweet—bitter .....	Bread—brown .....	Tobacco—smoke .....
Whistle—birds .....	Justice—done .....	Baby—boy .....
Woman—man ..... 1	Boy—baby .....	Moon—stars .....
Cold—warm .....	Light—heaven .....	Scissors—cotton .....17
Slow—fast .....	Health—wealth .....	Quiet—noisy .....
Wish—well .....	Bible—love .....	Green—yellow .....
River—mountain .....	Memory—remembrance...	Salt—pepper .....
White—red .....	Sheep—goat .....	Street—Dean .....17
Beautiful—heaven .....	Bath—water .....	King—God .....17
Window—door .....	Cottage—house .....	Cheese—Roquefort .....
Rough—smooth .....	Swift—slow .....	Blossom—apple .....
Citizen—naturalization..	Blue—green .....	Afraid—never .....
Foot—hand .....	Hungry—I .....	
Spider—bug .....	Priest—minister .....	

CASE No. 6367.—J. N. Depressive attack. Only two individual reactions, both classed as normal; undue tendency to give non-specific reactions.

Table—cup .....17	Needle—thread .....	Ocean—water .....
Dark—light .....	Red—blue .....	Head—arm .....
Music—song .....	Sleep—rest .....	Stove—warm .....
Sickness—pain .....	Anger—passion .....	Long—short .....
Man—child .....	Carpet—rug .....	Religion—good ..... 1
Deep—high .....	Girl—child .....	Whiskey—none .....
Soft—hard .....	High—low .....	Child—good ..... 1
Eating—tasting .....	Working—labor .....	Bitter—sour .....
Mountain—valley .....	Sour—sweet .....	Hammer—noise .....
House—room .....	Earth—ground .....	Thirsty—water .....
Black—white .....	Trouble—overcome .....17	City—country .....
Mutton—lamb .....	Soldier—brave .....	Square—round .....
Comfort—peace .....	Cabbage—lettuce .....	Butter—salt .....
Hand—foot .....	Hard—soft .....	Doctor—good ..... 1
Short—long .....	Eagle—bird .....	Loud—noise .....
Fruit—apple .....	Stomach—heart .....	Thief—man ..... 1
Butterfly—moth .....	Stem—tree .....	Lion—beast .....
Smooth—rough .....	Lamp—light ..... 1	Joy—good ..... 1
Command—obey .....	Dream—sleep .....	Bed—good ..... 1
Chair—table .....	Yellow—red .....	Heavy—weight .....
Sweet—sour .....	Bread—roll .....	Tobacco—smoke .....
Whistle—song .....	Justice—peace .....	Baby—child .....
Woman—love .....	Boy—child .....	Moon—sun .....
Cold—warm .....	Light—sun .....	Scissors—knife .....
Slow—fast .....	Health—wealth .....	Quiet—rest .....
Wish—well .....	Bible—good ..... 1	Green—red .....
River—water .....	Memory—good ..... 1	Salt—water .....
White—black .....	Sheep—lamb ..... 1	Street—city .....
Beautiful—grand .....	Bath—water .....	King—man ..... 1
Window—glass .....	Cottage—house .....	Cheese—butter .....
Rough—smooth .....	Swift—fast .....	Blossom—flower .....
Citizen—man ..... 1	Blue—white .....	Afraid—fear .....
Foot—hand .....	Hungry—eat .....	
Spider—fly .....	Priest—man ..... 1	



CASE No. 5162.—W. H. Recurrent attacks, mixed in character; at time of test patient was in a normal interval. 5 individual reactions, of which 1 is classed as normal, 1 as a derivative, 2 as non-specific, and 1 as a sound reaction; undue tendency to give non-specific (common) reactions.

Table—comfort .....	Needle—sharpness .....	Ocean—sailing .....
Dark—darkness .....	Red—blood .....	Head—thinking .....
Music—pleasure .....	Sleep—comfort .....	Stove—warmth .....
Sickness—sorrow .....	Anger—passion .....	Long—length .....
Man—manners .....	Carpet—walking .....	Religion—holiness .....
Deep—thought .....	Girl—lovely .....	Whiskey—badness .....
Soft—comfort .....	High—height .....	Child—pleasure .....
Eating—pleasure .....	Working—business .....	Bitter—sourness .....
Mountain—height .....	Sour—tart .....	Hammer—pounding .....
House—comfort .....	Earth—planting .....	Thirsty—drinking .....
Black—darkness .....	Trouble—sorrow .....	City—town .....
Mutton—eating .....	Soldier—fighting .....	Square—measure .....
Comfort—pleasure .....	Cabbage—eating .....	Butter—greasy .....
Hand—useful .....	Hard—harshness .....	Doctor—medicine .....
Short—stumpy .....	Eagle—flying .....	Loud—hearing .....
Fruit—eating .....	Stomach—eating .....	Thief—stealing .....
Butterfly—handsome .....	Stem—vine .....	Lion—fierceness .....
Smooth—plane .....	Lamp—lighting .....	Joy—pleasure .....
Command—ordering .....	Dream—pleasure .....	Bed—sleeping .....
Chair—easy .....	Yellow—color .....	Heavy—solid .....
Sweet—candy .....	Bread—eating .....	Tobacco—pleasure .....
Whistle—noise .....	Justice—suing .....	Baby—loveliness .....
Woman—love .....	Boy—children .....	Moon—bright .....
Cold—freezing .....	Light—seeing .....	Scissors—sharpness .....
Slow—laziness .....	Health—pleasure .....	Quiet—pleasure .....
Wish—good .....	Bible—thinking .....	Green—color .....
River—water .....	Memory—recollections ..	Salt—taste .....
White—clearness .....	Sheep—wool .....	Street—walking .....
Beautiful—handsome ..	Bath—pleasure .....	King—majestic .....
Window—scene .....	Cottage—living .....	Cheese—eating .....
Rough—harshness .....	Swift—quickness .....	Blossom—handsome .....
Citizen—voting .....	Blue—sky .....	Afraid—fear .....
Foot—stepping .....	Hungry—pleasure .....	
Spider—poison .....	Priest—holiness .....	

CASE No. 6279.—A. F. Maniacal attack; at time of test patient had improved, though not recovered. Non-specific reactions; particles. (Patient does not speak English with perfect fluency.)

Table—board .....	Needle—steel .....	Ocean—Grove .....
Dark—night .....	Red—rose .....	Head—black .....
Music—piano .....	Sleep—well .....	Stove—shine .....
Sickness—appendicitis ..	Anger—not .....	Long—square .....
Man—husband .....	Carpet—beauty .....	Religion—no .....
Deep—hole .....	Girl—love .....	Whiskey—champagne .....
Soft—hard .....	High—reason .....	Child—my .....
Eating—vegetable .....	Working—dress .....	Bitter—pepper .....
Mountain—country .....	Sour—vinegar .....	Hammer—knock .....
House—comfort .....	Earth—ground .....	Thirsty—no .....
Black—cotton .....	Trouble—much .....	City—New York .....
Mutton—lamb .....	Soldier—blue .....	Square—table .....
Comfort—rest .....	Cabbage—sour .....	Butter—good .....
Hand—arm .....	Hard—no .....	Doctor—B .....
Short—journey .....	Eagle—paper .....	Loud—talk .....
Fruit—apples .....	Stomach—well .....	Thief—night .....
Butterfly—love .....	Stem—flower .....	Lion—yes .....
Smooth—nice .....	Lamp—light .....	Joy—good .....
Command—order .....	Dream—awful .....	Bed—comfort .....
Chair—down .....	Yellow—flower .....	Heavy—iron .....
Sweet—sugar .....	Bread—rye .....	Tobacco—strong .....
Whistle—blow .....	Justice—court .....	Baby—love .....
Woman—good .....	Boy—little .....	Moon—shine .....
Cold—ice .....	Light—room .....	Scissors—cut .....
Slow—lazy .....	Health—love .....	Quiet—well .....
Wish—home .....	Bible—no .....	Green—bow .....
River—boat .....	Memory—good .....	Salt—bitter .....
White—milk .....	Sheep—lot .....	Street—Hinsdale .....
Beautiful—flowers .....	Bath—cold .....	King—Franz Joseph .....
Window—corner .....	Cottage—little .....	Cheese—Swiss .....
Rough—man .....	Swift—kick .....	Blossom—nice .....
Citizen—not .....	Blue—no .....	Afraid—no .....
Foot—short .....	Hungry—no .....	
Spider—don't .....	Priest—love .....	

CASE No. 4578.—E. M. Circular insanity of over twenty years' standing; at time of test patient was in a manic phase. Non-specific reactions; doubtful reactions; neologisms, all possessing obvious meaning.

Table—using .....	1	Needle—article .....	1	Ocean—water .....	
Dark—unbright .....	4	Red—color .....		Head—body .....	
Music—songs .....		Sleep—tiredness .....	4	Stove—article .....	1
Sickness—catching .....	17	Anger—scolding .....		Long—shortly .....	2
Man—masculine .....		Carpet—article .....	1	Religion—Bible .....	
Deep—high .....		Girl—female .....		Whiskey—drinking .....	
Soft—chew .....	19	High—low .....		Child—disremembering .....	4
Eating—sometimes .....	12	Working—do .....		Bitter—taste .....	
Mountain—highlands .....		Sour—tasting .....		Hammer—using .....	1
House—live .....		Earth—surface .....		Thirsty—drinking .....	
Black—color .....		Trouble—worryment .....		City—acting .....	15
Mutton—meat .....		Soldier—man .....	1	Square—measuring .....	2
Comfort—easy .....		Cabbage—vegetable .....		Butter—food .....	
Hand—body .....		Hard—difficult .....		Doctor—helping .....	2
Short—unlongly .....	4	Eagle—bird .....		Loud—hearing .....	2
Fruit—plants .....		Stomach—body .....		Thief—untrue .....	15
Butterfly—insects .....		Stem—article .....	6	Lion—animal .....	
Smooth—feeling .....		Lamp—article .....	1	Joy—gladness .....	
Command—do .....		Dream—untrue .....	4	Bed—lying .....	
Chair—use .....	1	Yellow—color .....		Heavy—unlightly .....	4
Sweet—taste .....		Bread—food .....		Tobacco—using .....	1
Whistle—act .....		Justice—unfairly .....	2	Baby—born .....	4
Woman—female .....		Boy—masculine .....		Moon—sending .....	19
Cold—acting .....	2	Light—easy .....		Scissors—using .....	1
Slow—gradually .....	17	Health—sickness .....		Quiet—acting .....	2
Wish—desire .....		Bible—commandments .....		Green—color .....	
River—water .....		Memory—remember .....		Salt—food .....	
White—color .....		Sheep—animal .....		Street—walking .....	
Beautiful—niceness .....	2	Bath—cleanness .....		King—person .....	1
Window—built .....	19	Cottage—country .....		Cheese—food .....	
Rough—treatment .....	17	Swift—quickly .....		Blossom—plant .....	
Citizen—country .....		Blue—color .....		Afraid—frightened .....	
Foot—body .....		Hungry—food .....			
Spider—insect .....		Priest—masculine .....	15		

CASE No. 5878.—A. B. Maniacal attack. 48 individual reactions, of which 18 are classed as normal, 10 are sound reactions (2 sound neologisms), 1 word complement, 8 particles, and 11 unclassified reactions most of which are either obviously normal or "far fetched" but not strictly incoherent.

Table—mahogany .....		Needle—tailor .....		Ocean—Niagara .....	17
Dark—green .....		Red—Herald .....	19	Head—rest .....	
Music—masonic .....	10	Sleep—seven .....	12	Stove—stationary .....	10
Sickness—seasickness .....	10	Anger—Angoria .....	3	Long—poems .....	19
Man—maternity .....	10	Carpet—green .....		Religion—Catholic .....	
Deep—well .....		Girl—eighteen .....	12	Whiskey—Hunter .....	
Soft—silk .....		High—school .....	11	Child—Jesus .....	17
Eating—cleanliness .....	19	Working—ten .....	12	Bitter—gall .....	
Mountain—Gibraltar .....	17	Sour—kraut .....		Hammer—steel .....	
House—bungalow .....		Earth—round .....		Thirsty—water .....	
Black—light .....		Trouble—son .....	19	City—New York .....	
Mutton—lamb .....		Soldier—navy .....		Square—Union .....	
Comfort—linen .....	17	Cabbage—curly .....	19	Butter—sweet .....	
Hand—left .....	17	Hard—stone .....		Doctor—S .....	17
Short—shorthand .....	10	Eagle—almanac .....	17	Loud—discreet .....	19
Fruit—pears .....		Stomach—stomjack .....	3	Thief—night .....	
Butterfly—canary .....	17	Stem—maple .....	17	Lion—Bostock .....	2
Smooth—linen .....	17	Lamp—New York .....	19	Joy—Joy Line .....	10
Command—pilot .....	17	Dream—husband .....	19	Bed—Ostermoor .....	17
Chair—round .....		Yellow—cards .....	17	Heavy—iron .....	
Sweet—sugar .....		Bread—rye .....		Tobacco—Durham .....	
Whistle—mother .....	19	Justice—liberty .....		Baby—Rose .....	17
Woman—twenty-one .....	12	Boy—Joe .....		Moon—half .....	
Cold—ice .....		Light—white .....		Scissors—steel .....	
Slow—music .....		Health—death .....	10	Quiet—nursing .....	19
Wish—girl .....		Bible—holy .....		Green—grass .....	
River—Hudson .....		Memory—seven .....	12	Salt—rock .....	
White—plaster .....	17	Sheep—lamb .....		Street—Liberty .....	17
Beautiful—nature .....		Bath—cleanliness .....		King—Alphonso .....	
Window—St. Patrick's .....	17	Cottage—gray .....	17	Cheese—Swiss .....	
Rough—blankets .....	19	Swift—ball .....		Blossom—apple .....	
Citizen—twenty-one .....	12	Blue—balloon .....	10	Afraid—dark .....	
Foot—six .....	12	Hungry—yes .....	12		
Spider—fly .....		Priest—doctor .....			

CASE No. 6511.—U. B. Maniacal attack. Persistent use of particles *oh*, *me*, *I*, *none*, etc.

Table—none	6	Needle—pine	17	Ocean—I	5
Dark—red	6	Red—brother	19	Head—home	6
Music—stock	19	Sleep—Adam	19	Stove—home	6
Sickness—rose	19	Anger—I	6	Long—short	6
Man—Frank	17	Carpet—home	6	Religion—none	6
Deep—blue	6	Girl—Agatha	17	Whiskey—none	6
Soft—pillow	6	High—niece	13	Child—Sylvester	17
Eating—no	12	Working—I	6	Bitter—I	6
Mountain—oyster	11	Sour—I	5	Hammer—my	12
House—mercy	19	Earth—I	5	Thirsty—no	6
Black—mother	19	Trouble—I	5	City—no	5
Mutton—me	6	Soldier—father	15	Square—Ben	19
Comfort—home	6	Cabbage—hail	19	Butter—I	6
Hand—mother	15	Hard—me	12	Doctor—I	5
Short—me	6	Eagle—I	6	Loud—bell	6
Fruit—me	5	Stomach—I	5	Thief—iron	19
Butterfly—it	12	Stem—life	6	Lion—I	6
Smooth—oh	12	Lamp—Lambert	10	Joy—I	5
Command—none	6	Dream—I	6	Bed—I	5
Chair—none	5	Yellow—I	5	Heavy—I	5
Sweet—for	12	Bread—I	5	Tobacco—I	5
Whistle—bird	6	Justice—I	5	Baby—I	5
Woman—I	6	Boy—just	13	Moon—will	12
Cold—I	5	Light—picture	19	Scissors—beads	15
Slow—me	6	Health—cook	19	Quiet—nerves	19
Wish—none	2	Bible—beads	17	Green—I	6
River—are	12	Memory—Dick	19	Salt—I	5
White—wife	10	Sheep—to	12	Street—Peter	17
Beautiful—Alma	17	Bath—none	6	King—I	6
Window—Stephen	19	Cottage—home	6	Cheese—I	5
Rough—Rudolphia	10	Swift—lazy	6	Blossom—I	5
Citizen—father	17	Blue—Nell	19	Afraid—no	6
Foot—Anthon	19	Hungry—I	5		
Spider—reverend	19	Priest—I	5		

CASE No. 4427.—A. R. Maniacal attack. Unusual number of doubtful reactions; 46 individual reactions of which 9 are classed as normal; 29 are unclassified, some seemingly incoherent.

Table—Chicago	19	Needle—canoe	19	Ocean—ships	6
Dark—Montreal	18	Red—refreshments	10	Head—intelligence	6
Music—Mississippi	18	Sleep—restfulness	2	Stove—woods	2
Sickness—flowers	19	Anger—usefulness	9	Long—trains	2
Man—ocean	19	Carpet—coach	19	Religion—godliness	2
Deep—medicines	19	Girl—finery	19	Whiskey—drunkenness	2
Soft—accidental	19	High—fortifications	19	Child—joyfulness	2
Eating—vaccination	19	Working—materials	19	Bitter—olives	6
Mountain—evergreens	17	Sour—pickles	2	Hammer—nuts	6
House—caves	19	Earth—gravitation	2	Thirsty—water	6
Black—station	19	Trouble—graphophone	19	City—shopping	6
Mutton—operations	19	Soldier—guns	19	Square—monuments	2
Comfort—money	6	Cabbage—children	19	Butter—crackers	17
Hand—bandages	10	Hard—inheritor	19	Doctor—medicines	6
Short—soldiers	19	Eagle—feathers	6	Loud—music	2
Fruit—dictionary	19	Stomach—envelope	19	Thief—detectives	2
Butterfly—storehouse	19	Stem—roots	6	Lion—cages	2
Smooth—vegetables	18	Lamp—oil	6	Joy—home	6
Command—Bible	6	Dream—fairies	17	Bed—restfulness	2
Chair—histories	14	Yellow—lemons	2	Heavy—expressage	17
Sweet—farewells	19	Bread—jams	17	Tobacco—cigars	6
Whistle—ammunition	19	Justice—repentance	17	Baby—carriage	6
Woman—foreign	19	Boy—clothes	6	Moon—light	6
Cold—armory	19	Light—lanterns	17	Scissors—goods	6
Slow—St. Petersburg	19	Health—joys	2	Quiet—peacefulness	6
Wish—wealth	6	Bible—heaven	6	Green—vegetables	6
River—revenue	10	Memory—head	6	Salt—water	6
White—purity	6	Sheep—pastures	6	Street—stones	6
Beautiful—colonial	19	Bath—cleanliness	6	King—crown	6
Window—shutters	6	Cottage—home	6	Cheese—knife	6
Rough—planes	2	Swift—rapids	2	Blossom—plants	2
Citizen—naturalization	6	Blue—truth	6	Afraid—enemies	17
Foot—carriage	19	Hungry—appetite	6		
Spider—remedies	19	Priest—saintliness	17		

CASE No. 6457.—C. G. Depressive attack. 36 individual reactions of which 9 are classed as normal and 20 as unclassified; among the latter several seem to be incoherent.

Table—fish .....	17	Needle—sewing .....		Ocean—briny .....	19
Dark—boat .....		Red—man .....	9	Head—hard .....	
Music—water .....	18	Sleep—pond .....	19	Stove—black .....	
Sickness—tank .....	18	Anger—hatred .....		Long—grass .....	
Man—horse .....		Carpet—tacks .....		Religion—thinking .....	1
Deep—ocean .....		Girl—floor .....	13	Whiskey—Kentucky .....	
Soft—egg .....		High—mountain .....		Child—carriage .....	
Eating—beans .....	17	Working—dog .....	19	Bitter—pickles .....	
Mountain—grass .....		Sour—milk .....		Hammer—nails .....	
House—roof .....		Earth—mud .....		Thirsty—wanting .....	
Black—bath .....	10	Trouble—radiator .....	19	City—New York .....	
Mutton—butcher .....		Soldier—cannon .....		Square—base .....	17
Comfort—cigar .....	17	Cabbage—vegetable .....		Butter—cow .....	
Hand—shoes .....	19	Hard—wood .....		Doctor—carriage .....	
Short—baseball .....	19	Eagle—quick .....	19	Loud—hall .....	19
Fruit—orange .....		Stomach—flesh .....		Thief—prison .....	
Butterfly—elephant .....	19	Stem—pipe .....		Lion—cage .....	
Smooth—glass .....		Lamp—burn .....		Joy—automobile .....	
Command—general .....		Dream—thinking .....	1	Bed—iron .....	
Chair—kitchen .....	17	Yellow—mice .....	19	Heavy—lead .....	
Sweet—cake .....	17	Bread—baker .....		Tobacco—weed .....	
Whistle—bird .....		Justice—equality .....		Baby—rocker .....	
Woman—door .....	19	Boy—young .....	17	Moon—sky .....	
Cold—ice .....	19	Light—green .....	19	Scissors—laundry .....	19
Slow—cat .....	19	Health—art .....	19	Quiet—peaceful .....	
Wish—bed .....	19	Bible—preacher .....		Green—engine .....	19
River—trout .....	17	Memory—return .....	19	Salt—grocer .....	19
White—paint .....		Sheep—fold .....		Street—Lincoln .....	17
Beautiful—monkey .....	19	Bath—water .....		King—Spain .....	
Window—bars .....		Cottage—house .....		Cheese—baker .....	19
Rough—rowdy .....		Swift—fleeting .....	2	Blossom—flower .....	
Citizen—policeman .....		Blue—dark .....		Afraid—going .....	2
Foot—fine .....	9	Hungry—thirst .....			
Spider—insect .....		Priest—elephant .....	15		

#### INVOLUTIONAL MELANCHOLIA; ALCOHOLIC DEMENTIA; SENILE DEMENTIA.

There are so few cases of these psychoses in our series that we can say but little concerning their associational disorders.

In Table V. we show all the types of reactions given by each subject.

We have not observed in our cases of *involutional melancholia* any undue tendency to give individual reactions. The records are either perfectly normal or slightly abnormal in that they show an increase of the non-specific (common) reactions. In this respect they resemble strongly the records obtained from some cases of manic-depressive insanity. This similarity is of interest in connection with other evidence, recently brought to light,<sup>1</sup> showing that involutional melancholia is closely related to manic-depressive insanity, if not identical with it.

<sup>1</sup>G. L. Dreyfus. Die Melancholie ein Zustandsbild des manisch-depressiven Irreseins. 1907.

TABLE V.

TYPES OF REACTION.	Involuntary Melancholia.								Alcoholic Dementia.				Senile Dementia.					
	Case No. 6207.	Case No. 4818.	Case No. 5719.	Case No. 6480.	Case No. 6388.	Case No. 6077.	Case No. 4812.	Case No. 6685.	Case No. 6298.	Case No. 6389.	Case No. 6067.	Case No. 6469.	Case No. 01009.	Case No. 6418.	Case No. 6471.	Case No. 6387.	Case No. 6388.	Case No. 6798.
<i>Common reactions:</i>																		
Specific reactions.....	86	79	92	88	86	83	73	90	79	75	77	80	46	72	71	83	77	
Non-specific reactions.....	13	12	1	9	4	6	6	8	11	10	8	8	8	16	8	..	8	
<i>Doubtful reactions.</i> .....	1	4	1	1	2	2	3	1	2	5	3	3	7	..	6	..	..	
<i>Individual reactions:</i>																		
Normal reactions.....	..	2	1	4	..	3	1	5	4	3	4	3	14	2	4	8	3	
Derivatives of stimulus words.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Non-specific reactions.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Sound reactions (words).....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Sound reactions (neologisms).....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Word complements.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Particles of speech.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Association to preceding stimulus.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Association to preceding reaction.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Repetition of preceding stimulus.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Repetition of preceding reaction.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Reaction repeated five times.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Neologisms without sound relation.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Unclassified.....	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Total individual reactions.....	0	4	5	6	7	8	9	13	6	8	10	12	14	39	12	16	18	20

## CASE No. 4818.—S. M. Normal record.

Table—wood .....	Needle—instrument .....	Ocean—water .....
Dark—black .....	Red—color .....	Head—body .....
Music—noise .....	Sleep—repose .....	Stove—fire .....
Sickness—illness .....	Anger—temper .....	Long—distance .....
Man—being .....	Carpet—rug .....	Religion—creed .....
Deep—depth .....	Girl—sex .....	Whiskey—liquor .....
Soft—mushy .....	High—elevation .....	Child—infant .....
Eating—devouring .....	Working—employment .....	Bitter—sour .....
Mountain—hill .....	Sour—bitter .....	Hammer—tool .....
House—residence .....	Earth—clay .....	Thirsty—dry .....
Black—color .....	Trouble—anxiety .....	City—town .....
Mutton—meat .....	Soldier—military .....	Square—block .....
Comfort—luxury .....	Cabbage—vegetable .....	Butter—food .....
Hand—body .....	Hard—substance .....	Doctor—physician .....
Short—abrupt .....	Eagle—bird .....	Loud—noisy .....
Fruit—oranges .....	Stomach—body .....	Thief—burglar .....
Butterfly—insect .....	Stem—flower .....	Lion—animal .....
Smooth—even .....	Lamp—light .....	Joy—happiness .....
Command—order .....	Dream—imagination .....	Bed—cot .....
Chair—article .....	Yellow—color .....	Heavy—weight .....
Sweet—taste .....	Bread—wheat .....	Tobacco—weed .....
Whistle—noise .....	Justice—credit .....	Baby—infant .....
Woman—sex .....	Boy—child .....	Moon—light .....
Cold—temperature .....	Light—sun .....	Scissors—instrument .....
Slow—dull .....	Health—condition .....	Quiet—noiseless .....
Wish—desire .....	Bible—book .....	Green—color .....
River—water .....	Memory—remembrance .....	Salt—seasoning .....
White—color .....	Sheep—lamb .....	Street—block .....
Beautiful—sky .....	Bath—bathing .....	King—ruler .....
Window—glass .....	Cottage—house .....	Cheese—food .....
Rough—uneven .....	Swift—rapid .....	Blossom—flower .....
Citizen—representative .....	Blue—color .....	Afraid—fear .....
Foot—end .....	Hungry—desire .....	
Spider—insect .....	Priest—minister .....	

## CASE No. 6207.—T. S. No individual reactions; 13 non-specific reactions.

Table—furniture .....	Needle—instrument .....	Ocean—water .....
Dark—color .....	Red—color .....	Head—person .....
Music—fiddle .....	Sleep—bed .....	Stove—heat .....
Sickness—bed .....	Anger—irritable .....	Long—length .....
Man—person .....	Carpet—rug .....	Religion—belief .....
Deep—water .....	Girl—person .....	Whiskey—drink .....
Soft—pliable .....	High—elevation .....	Child—person .....
Eating—cake .....	Working—try .....	Bitter—sour .....
Mountain—high .....	Sour—bitter .....	Hammer—tool .....
House—bricks .....	Earth—sand .....	Thirsty—dry .....
Black—color .....	Trouble—anxiety .....	City—place .....
Mutton—meat .....	Soldier—person .....	Square—shape .....
Comfort—easy .....	Cabbage—plant .....	Butter—eat .....
Hand—limb .....	Hard—stone .....	Doctor—physician .....
Short—small .....	Eagle—bird .....	Loud—hear .....
Fruit—vegetable .....	Stomach—person .....	Thief—steal .....
Butterfly—insect .....	Stem—apple .....	Lion—animal .....
Smooth—level .....	Lamp—light .....	Joy—glad .....
Command—control .....	Dream—sleep .....	Bed—sleep .....
Chair—sit .....	Yellow—color .....	Heavy—weight .....
Sweet—nice .....	Bread—flour .....	Tobacco—plant .....
Whistle—noise .....	Justice—equal .....	Baby—child .....
Woman—person .....	Boy—child .....	Moon—light .....
Cold—atmosphere .....	Light—gas .....	Scissors—tool .....
Slow—easy .....	Health—doctor .....	Quiet—rest .....
Wish—something .....	Bible—Scripture .....	Green—color .....
River—stream .....	Memory—thought .....	Salt—spice .....
White—color .....	Sheep—animal .....	Street—place .....
Beautiful—nice .....	Bath—water .....	King—ruler .....
Window—glass .....	Cottage—house .....	Cheese—eat .....
Rough—unpleasant .....	Swift—quick .....	Blossom—flower .....
Citizen—person .....	Blue—color .....	Afraid—hide .....
Foot—limb .....	Hungry—want .....	
Spider—insect .....	Priest—preach .....	

CASE No. 5719.—A. W. S. 5 individual reactions; 12 non-specific reactions.

Table—stand .....	Needle—pointed .....	Ocean—water .....
Dark—color .....	Red—blood .....	Head—brains .....
Music—happy ..... 1	Sleep—rest .....	Stove—heat .....
Sickness—ill .....	Anger—riled .....	Long—measurement ..... 2
Man—human .....	Carpet—covering .....	Religion—good ..... 1
Deep—thought ..... 1	Girl—child .....	Whiskey—alcohol .....
Soft—touch .....	High—air .....	Child—baby .....
Eating—appetite .....	Working—ambitious .....	Bitter—taste .....
Mountain—ground .....	Sour—taste .....	Hammer—knock .....
House—shelter .....	Earth—ground .....	Thirsty—water .....
Black—color .....	Trouble—thought ..... 1	City—New York .....
Mutton—lamb .....	Soldier—command .....	Square—box .....
Comfort—warm .....	Cabbage—vegetable .....	Butter—milk .....
Hand—touch .....	Hard—blow ..... 17	Doctor—help .....
Short—small ..... 1	Eagle—bird .....	Loud—noise .....
Fruit—taste .....	Stomach—body .....	Thief—burglar .....
Butterfly—beauty ..... 1	Stem—pipe .....	Lion—animal .....
Smooth—level .....	Lamp—light .....	Joy—well ..... 19
Command—obey .....	Dream—thought ..... 1	Bed—rest .....
Chair—rest .....	Yellow—purple .....	Heavy—load .....
Sweet—good .....	Bread—food .....	Tobacco—nicotine .....
Whistle—noise .....	Justice—law .....	Baby—joy .....
Woman—female .....	Boy—male .....	Moon—light .....
Cold—chilled ..... 2	Light—lamp .....	Scissors—cutting .....
Slow—move .....	Health—soul ..... 19	Quiet—rest .....
Wish—think ..... 1	Bible—Scriptures .....	Green—color .....
River—water .....	Memory—thought ..... 1	Salt—sand ..... 19
White—color .....	Sheep—lamb .....	Street—crossing ..... 2
Beautiful—nice ..... 1	Bath—cleanness .....	King—ruler .....
Window—glass .....	Cottage—house .....	Cheese—luxury ..... 19
Rough—push .....	Swift—quick .....	Blossom—flower .....
Citizen—man ..... 1	Blue—color .....	Afraid—fright .....
Foot—body .....	Hungry—appetite .....	
Spider—insect .....	Priest—scholar ..... 2	

CASE No. 5635. J. D. 13 individual reactions, of which 6 are classed as normal, 1 particle, 6 unclassified, mostly obviously normal.

Table—eating .....	Needle—sticking ..... 19	Ocean—bathing .....
Dark—night .....	Red—danger .....	Head—mind .....
Music—amusement .....	Sleep—rest .....	Stove—fire .....
Sickness—distress .....	Anger—right ..... 19	Long—hours .....
Man—working .....	Carpet—house .....	Religion—church .....
Deep—sorrow .....	Girl—out ..... 12	Whiskey—drinking .....
Soft—easy .....	High—air .....	Child—home .....
Eating—supper ..... 17	Working—labor .....	Bitter—sour .....
Mountain—pleasure ..... 1	Sour—bitter .....	Hammer—working .....
House—home .....	Earth—ground .....	Thirsty—dry .....
Black—grief ..... 19	Trouble—worry .....	City—New York .....
Mutton—butchers ..... 2	Soldier—man ..... 1	Square—block .....
Comfort—home .....	Cabbage—farmer ..... 2	Butter—cow .....
Hand—shake .....	Hard—bath ..... 19	Doctor—hospital .....
Short—baseball ..... 19	Eagle—birds .....	Loud—speaking ..... 2
Fruit—eating .....	Stomach—body .....	Thief—sentence ..... 17
Butterfly—field .....	Stem—pipe .....	Lion—animal .....
Smooth—soft .....	Lamp—burn .....	Joy—pleasure ..... 1
Command—oblige ..... 17	Dream—thinking ..... 1	Bed—sleeping .....
Chair—seat .....	Yellow—color .....	Heavy—weight .....
Sweet—flowers .....	Bread—eating .....	Tobacco—smoking .....
Whistle—fire .....	Justice—peace .....	Baby—home .....
Woman—home .....	Boy—soldier ..... 17	Moon—night .....
Cold—winter .....	Light—day .....	Scissors—cutting .....
Slow—easy .....	Health—happy ..... 1	Quiet—alone .....
Wish—home .....	Bible—books .....	Green—color .....
River—dock ..... 17	Memory—good ..... 1	Salt—eating .....
White—day .....	Sheep—lamb .....	Street—walking .....
Beautiful—handsome ...	Bath—washing .....	King—William ..... 17
Window—glass .....	Cottage—house .....	Cheese—milk .....
Rough—wagon ..... 19	Swift—quick .....	Blossom—flower .....
Citizen—voter .....	Blue—color .....	Afraid—fright .....
Foot—walking .....	Hungry—eating .....	
Spider—web .....	Priest—church .....	

Our cases of *alcoholic dementia* are clinically without evidences of disturbance of flow of thought. The dementia consists mainly

in impairment or loss of the power of retention, with resulting amnesia for recent occurrences, and temporal disorientation. The records are either normal or show but slight departures from normal.

CASE No. 6369.—J. S. Slight deterioration.

Table—eat .....	Needle—sticking .....19	Ocean—vessels ..... 2
Dark—night .....	Red—color .....	Head—knowledge .....
Music—enjoyment .....	Sleep—happy ..... 1	Stove—burn .....
Sickness—sadness .....	Anger—annoyance .....	Long—time .....
Man—work ..... 1	Carpet—walk .....	Religion—faith .....
Deep—hole .....	Girl—school .....	Whiskey—drink .....
Soft—feathers .....	High—skies .....	Child—infant .....
Eating—appetite .....	Working—labor .....	Bitter—unkind .....17
Mountain—hill .....	Sour—lemon .....	Hammer—nail .....
House—live .....	Earth—walk .....	Thirsty—dry .....
Black—dark .....	Trouble—annoyance .....	City—inhabitants .....
Mutton—eat .....	Soldier—army .....	Square—brick .....
Comfort—pleasant ..... 1	Cabbage—eat .....	Butter—eat .....
Hand—work ..... 1	Hard—stone .....	Doctor—cure .....
Short—story .....	Eagle—fly .....	Loud—noise .....
Fruit—eat .....	Stomach—victuals .....17	Thief—steal .....
Butterfly—annoyance ... 6	Stem—pipe .....	Lion—animal .....
Smooth—iron .....	Lamp—burn .....	Joy—happiness ..... 1
Command—officer .....	Dream—sleep .....	Bed—lay .....
Chair—sit .....	Yellow—orange .....	Heavy—feeling ..... 2
Sweet—nice ..... 1	Bread—eat .....	Tobacco—chew .....
Whistle—pleasure ..... 1	Justice—person ..... 1	Baby—nurse .....
Woman—pleasure ..... 1	Boy—school .....	Moon—bright .....
Cold—annoyance ..... 6	Light—see .....	Scissors—cut .....
Slow—car .....	Health—comfort .....	Quiet—ease .....
Wish—like .....	Bible—read .....	Green—flower .....
River—water .....	Memory—recollection .....	Salt—taste .....
White—sack .....17	Sheep—eat .....	Street—walking .....
Beautiful—house .....17	Bath—cleanness .....	King—control .....19
Window—look .....	Cottage—live .....	Cheese—eat .....
Rough—unpleasant ..... 1	Swift—go .....	Blossom—flower .....
Citizen—man ..... 1	Blue—color .....	Afraid—nervousness ....
Foot—walk .....	Hungry—eat .....	
Spider—annoyance .....	Priest—confession .....	

CASE No. 6418.—J. R. Marked deterioration.

Table—mahogany .....	Needle—darning .....	Ocean—Pacific .....17
Dark—dawn .....17	Red—apples .....	Head—oval .....19
Music—harp .....17	Sleep—plenty .....	Stove—polish .....
Sickness—none ..... 6	Anger—mistake .....17	Long—forever .....12
Man—white .....19	Carpet—floor .....	Religion—Protestant ...
Deep—unfathomable ... 2	Girl—pretty ..... 1	Whiskey—none ..... 5
Soft—silken ..... 2	High—ordinary .....19	Child—none .....
Eating—good ..... 1	Working—eight .....12	Bitter—sweet .....
Mountain—high .....	Sour—nonsense .....19	Hammer—no .....12
House—place .....	Earth—fruits ..... 2	Thirsty—no ..... 5
Black—color .....	Trouble—little .....	City—New York .....
Mutton—cooked .....17	Soldier—patriot .....	Square—compass .....
Comfort—rest .....	Cabbage—garden .....	Butter—sweet .....
Hand—clasp .....19	Hard—wood .....	Doctor—cure .....
Short—small ..... 1	Eagle—high .....	Loud—quietly ..... 2
Fruit—apples .....	Stomach—leave .....19	Thief—jail .....
Butterfly—buttercups ... 2	Stem—stalk .....	Lion—brave .....
Smooth—iron .....	Lamp—kerosene .....	Joy—peacefulness ..... 2
Command—home .....19	Dream—happy ..... 1	Bed—good ..... 1
Chair—ebony .....19	Yellow—aster .....17	Heavy—no .....
Sweet—potatoes .....17	Bread—white .....	Tobacco—yes .....12
Whistle—song .....	Justice—right .....	Baby—none ..... 6
Woman—pretty ..... 1	Boy—white .....15	Moon—shines .....
Cold—depressed .....19	Light—white .....	Scissors—uncut ..... 2
Slow—process .....17	Health—good ..... 1	Quiet—peaceful .....
Wish—home .....	Bible—puzzled .....19	Green—grass .....
River—Mississippi .....	Memory—bad ..... 1	Salt—water .....
White—wings .....17	Sheep—cheviot .....17	Street—Queen .....17
Beautiful—palace .....19	Bath—marble .....17	King—unknown .....19
Window—clear .....	Cottage—story .....17	Cheese—Stilton .....17
Rough—no .....12	Swift—fast .....	Blossom—cherry .....
Citizen—patriot .....	Blue—waist .....17	Afraid—not .....
Foot—heath .....19	Hungry—not ..... 2	
Spider—none ..... 6	Priest—confessor .....	



We reproduce in full the record obtained from one of our cases of *senile dementia*.

CASE No. 5788.—E. S.

Table—cat .....	6	Needle—pin .....		Ocean—river .....	
Dark—night .....		Red—white .....		Head—life .....	
Music—cat .....	2	Sleep—eyes .....		Stove—fire .....	
Sickness—cat .....	5	Anger—mad .....		Long—short .....	
Man—mouse .....	18	Carpet—cloth .....		Religion—Catholic .....	
Deep—well .....		Girl—boy .....		Whiskey—drink .....	
Soft—sack .....	19	High—low .....		Child—boy .....	
Eating—well .....		Working—sewing .....		Bitter—sweet .....	
Mountain—hill .....		Sour—sweet .....		Hammer—noise .....	
House—castle .....		Earth—clay .....		Thirsty—drink .....	
Black—dog .....		Trouble—cold .....	15	City—New York .....	
Mutton—sheep .....		Soldier—man .....	1	Square—Marion .....	17
Comfort—lamb .....	18	Cabbage—spinach .....		Butter—cow .....	
Hand—chicken .....	18	Hard—cat .....	6	Doctor—W. ....	17
Short—light .....	19	Eagle—bird .....		Loud—noise .....	
Fruit—apple .....		Stomach—belly .....		Thief—steals .....	
Butterfly—fly .....		Stem—pike .....	17	Lion—beast .....	
Smooth—iron .....		Lamp—globe .....		Joy—happy .....	1
Command—obey .....		Dream—eyes .....		Bed—mattress .....	
Chair—stool .....		Yellow—flower .....		Heavy—load .....	
Sweet—sugar .....		Bread—flour .....		Tobacco—smoke .....	
Whistle—lump .....	18	Justice—right .....		Baby—boy .....	
Woman—man .....	1	Boy—cat .....	6	Moon—shine .....	
Cold—shiver .....		Light—lamp .....		Scissors—cut .....	
Slow—cold .....	7	Health—cough .....	17	Quiet—noisy .....	
Wish—push .....	19	Bible—book .....		Green—color .....	
River—pond .....		Memory—mind .....		Salt—bitter .....	
White—cat .....		Sheep—lamb .....		Street—place .....	
Beautiful—cat .....	5	Bath—water .....		King—rule .....	
Window—glass .....		Cottage—house .....		Cheese—taste .....	
Rough—tight .....	19	Swift—quick .....		Blossom—flower .....	
Citizen—tough .....		Blue—color .....		Afraid—trouble .....	
Foot—shoe .....		Hungry—eat .....			
Spider—clock .....	19	Priest—clergyman .....			

# § 8. PATHOLOGICAL REACTIONS FROM NORMAL SUBJECTS.

Mental disorders do not always so manifest themselves as to incapacitate the subject for his work or to necessitate his sequestration in a hospital for the insane. It is, therefore, not surprising that in applying the association test to over a thousand subjects selected at random we have obtained a small number of test records which show various types of abnormal reactions. Among the subjects who furnished such records some are described as eccentric, taciturn, or dull, while others are apparently normal but come of neuropathic stock. A few of them are persons wholly unknown to us.

We reproduce in full several records from the normal series, containing abnormal reactions.

CONSECUTIVE No. 746.—State hospital attendant. Efficient in his work but is generally regarded to have married very foolishly. Sound reactions; numerous unclassified reactions.

Table—brought	19	Needle—knee	10	Ocean—oar	10
Dark—some	19	Red—roam	19	Head—him	12
Music—leaf	19	Sleep—sorrow	19	Stove—still	10
Sickness—water	19	Anger—August	19	Long—left	15
Man—book	19	Carpet—covered	2	Religion—rest	19
Deep—desk	19	Girl—great	9	Whiskey—whirl	15
Soft—ground	19	High—his	12	Child—charge	19
Eating—bark	19	Working—map	19	Bitter—bought	10
Mountain—tree	19	Sour—slur	10	Hammer—hemp	10
House—paper	19	Earth—eat	19	Thirsty—Thursday	10
Black—light	19	Trouble—through	12	City—salt	10
Mutton—horse	13	Soldier—soldier	10	Square—squirrel	10
Comfort—hat	19	Cabbage—cart	19	Butter—bread	10
Hand—sick	13	Hard—him	12	Doctor—daisy	19
Short—swallow	19	Eagle—earth	13	Loud—lark	19
Fruit—mass	19	Stomach—stall	10	Thief—twist	19
Butterfly—leaf	15	Stem—stair	10	Lion—lesson	10
Smooth—wing	13	Lamp—left	19	Joy—jar	19
Command—man	1	Dream—dread	19	Bed—beard	10
Chair—left	19	Yellow—waist	15	Heavy—health	10
Sweet—sick	2	Bread—book	15	Tobacco—toboggan	10
Whistle—whirl	10	Justice—gem	19	Baby—bird	15
Woman—where	12	Boy—bird	19	Moon—mill	19
Cold—coal	15	Light—left	10	Scissors—setters	10
Slow—some	15	Health—heart	17	Quiet—quart	10
Wish—whirl	15	Bible—base	19	Green—great	9
River—rice	19	Memory—moth	19	Salt—sorrow	10
White—waist	15	Sheep—shrill	19	Street—stem	10
Beautiful—brought	15	Bath—bend	19	King—cart	15
Window—women	10	Cottage—cart	10	Cheese—chart	19
Rough—row	19	Swift—swell	10	Blossom—bed	19
Citizen—sir	10	Blue—beard	11	Afraid—frill	10
Foot—fall	19	Hungry—heart	15		
Spider—spice	10	Priest—path	19		

CONSECUTIVE No. 220.—Laundryman in State hospital. Nothing abnormal has ever been observed in his case. Numerous perseverations.

Table—house	19	Needle—thread	19	Ocean—rice	19
Dark—range	19	Red—spool	18	Head—eyes	18
Music—cats	19	Sleep—machine	18	Stove—nose	18
Sickness—dog	18	Anger—picture	19	Long—mouth	18
Man—barn	19	Carpet—bed	17	Religion—legs	18
Deep—hollow	19	Girl—bureau	18	Whiskey—arms	18
Soft—apple	17	High—oilcloth	18	Child—elbows	18
Eating—cranberry	17	Working—pen	19	Bitter—day	19
Mountain—water	17	Sour—ink	18	Hammer—nails	13
House—pig	19	Earth—paper	18	Thirsty—saw	13
Black—rats	18	Trouble—chair	19	City—plane	18
Mutton—mice	2	Soldier—table	14	Square—chisel	18
Comfort—sheep	13	Cabbage—beet	13	Butter—file	18
Hand—lamb	14	Hard—cauliflower	13	Doctor—duck	10
Short—birds	19	Eagle—potatoes	18	Loud—goose	18
Fruit—peach	18	Stomach—beans	17	Thief—robber	18
Butterfly—pears	18	Stem—plum	17	Lion—tiger	13
Smooth—grapes	18	Lamp—wick	13	Joy—bear	13
Command—nut	18	Dream—oil	19	Bed—leopard	18
Chair—bureau	19	Yellow—stick	19	Heavy—tiger	15
Sweet—broom	19	Bread—stone	18	Tobacco—smoke	13
Whistle—violin	19	Justice—dirt	18	Baby—pipe	13
Woman—man	1	Boy—street	19	Moon—star	13
Cold—child	10	Light—match	19	Scissors—sharp	13
Slow—infant	14	Health—sickness	19	Quiet—noisy	13
Wish—night	19	Bible—book	13	Green—blue	13
River—dark	14	Memory—leaf	13	Salt—yellow	13
White—steamboat	17	Sheep—wool	13	Street—green	14
Beautiful—tugboat	18	Bath—water	13	King—purple	14
Window—yacht	18	Cottage—people	1	Cheese—axe	19
Rough—ferry	18	Swift—fast	19	Blossom—handle	19
Citizen—water	13	Blue—residence	19	Afraid—barn	19
Foot—egg	19	Hungry—beef	17		
Spider—fly	19	Priest—clergyman	17		

CONSECUTIVE No. 255.—State hospital attendant. Efficient, but unusually taciturn and seclusive. Sound reactions.

Table—linen .....	Needle—work .....	1	Ocean—apple .....	19
Dark—sunshine .....	Red—robe .....	19	Head—heart .....	
Music—song .....	Sleep—soap .....	10	Stove—strap .....	10
Sickness—Saturday .....	Anger—angel .....	19	Long—love .....	15
Man—manager .....	Carpet—carriage .....	19	Religion—belief .....	
Deep—dark .....	Girl—guide .....	19	Whiskey—whisk broom .....	10
Soft—sorrowful .....	High—heart .....	10	Child—chap .....	10
Eating—eighty .....	Working—worthy .....	10	Bitter—butter .....	10
Mountain—miner .....	Sour—satchel .....	19	Hammer—habit .....	19
House—heart .....	Earth—early .....	10	Thirsty—thirty .....	10
Black—blue .....	Trouble—trout .....	19	City—soap .....	15
Mutton—mountain .....	Soldier—socket .....	19	Square—squirrel .....	10
Comfort—company .....	Cabbage—currant .....	17	Butter—bank .....	19
Hand—happy .....	Hard—harmful .....	10	Doctor—dentist .....	
Short—slow .....	Eagle—early .....	15	Loud—laugh .....	
Fruit—froth .....	Stomach—stable .....	19	Thief—thump .....	19
Butterfly—butter .....	Stem—stand .....	10	Lion—lump .....	19
Smooth—smoke .....	Lamp—light .....	10	Joy—jump .....	19
Command—company .....	Dream—drunk .....	10	Bed—bank .....	15
Chair—chap .....	Yellow—lustre .....	19	Heavy—happy .....	10
Sweet—slow .....	Bread—brand .....	10	Tobacco—tub .....	19
Whistle—whip .....	Justice—judgment .....		Baby—bundle .....	
Woman—worried .....	Boy—butter .....	15	Moon—mantle .....	10
Cold—cow .....	Light—love .....	19	Scissors—Saturday .....	15
Slow—slap .....	Health—help .....	10	Quiet—quarter .....	10
Wish—water .....	Bible—book .....		Green—drought .....	19
River—rubbed .....	Memory—mental .....		Salt—Saturday .....	10
White—wash .....	Sheep—shop .....	10	Street—straight .....	
Beautiful—bounty .....	Bath—bandage .....	10	King—cattle .....	19
Window—light .....	Cottage—cot .....	10	Cheese—captain .....	19
Rough—roguish .....	Swift—swan .....	10	Blossom—bandage .....	15
Citizen—sight-seeing .....	Blue—black .....	10	Afraid—flattered .....	10
Foot—fool .....	Hungry—height .....	19		
Spider—span .....	Priest—house .....			

CONSECUTIVE No. 442.—Nothing abnormal has ever been suspected in the case of this subject; mother eccentric; sister insane. Sound reactions.

Table—stable .....	Needle—needleless .....	10	Ocean—over .....	12
Dark—dreary .....	Red—color .....		Head—large .....	1
Music—joy .....	Sleep—sleet .....	10	Stove—stone .....	10
Sickness—silliness .....	Anger—rough .....		Long—heavy .....	19
Man—manner .....	Carpet—carpenter .....	10	Religion—goodness .....	1
Deep—dreary .....	Girl—going .....	19	Whiskey—strong .....	
Soft—sooth .....	High—air .....		Child—small .....	1
Eating—evening .....	Working—toiling .....		Bitter—butter .....	10
Mountain—morning .....	Sour—shower .....	10	Hammer—hard .....	
House—help .....	Earth—eating .....	19	Thirsty—thrifty .....	10
Black—dark .....	Trouble—loneliness .....	17	City—seeing .....	10
Mutton—mitten .....	Soldier—solid .....	10	Square—squirrel .....	10
Comfort—come .....	Cabbage—carrying .....	19	Butter—bitter .....	10
Hand—handsome .....	Hard—hardly .....	8	Doctor—dark .....	10
Short—small .....	Eagle—eating .....	10	Loud—noisy .....	
Fruit—first .....	Stomach—starch .....	10	Thief—stealing .....	
Butterfly—butter .....	Stem—step .....	2	Lion—eating .....	
Smooth—sooth .....	Lamp—glass .....		Joy—joyous .....	8
Command—come .....	Dream—dreary .....		Bed—sleep .....	
Chair—air .....	Yellow—yonder .....	12	Heavy—weightful .....	4
Sweet—good .....	Bread—bed .....	10	Tobacco—cocoa .....	10
Whistle—music .....	Justice—juice .....	10	Baby—boys .....	2
Woman—wonder .....	Boy—ball .....		Moon—moo .....	3
Cold—freezing .....	Light—likeness .....	10	Scissors—successors .....	10
Slow—snow .....	Health—help .....	10	Quiet—easy .....	
Wish—wind .....	Bible—book .....		Green—grass .....	
River—rifle .....	Memory—memorial .....	2	Salt—simmer .....	19
White—wait .....	Sheep—sleep .....		Street—steep .....	10
Beautiful—handsome .....	Bath—battle .....	10	King—kingdom .....	
Window—light .....	Cottage—cotton .....	10	Cheese—squeeze .....	10
Rough—harsh .....	Swift—fast .....		Blossom—blooming .....	
Citizen—city .....	Blue—blind .....	10		
Foot—walk .....	Hungry—hurry .....	10		
Spider—creep .....	Priest—prince .....	10		

CONSECUTIVE No. 314.—School teacher. Efficient; described as very silent. Unclassified reactions, due mostly to distraction.

Table—cat .....	19	Needle—good .....	9	Ocean—boat .....	
Dark—no .....	12	Red—bad .....	9	Head—hat .....	
Music—will .....	19	Sleep—hinge .....	19	Stove—ashes .....	17
Sickness—chair .....	19	Anger—will .....	15	Long—short .....	
Man—table .....	6	Carpet—paper .....	6	Religion—peace .....	
Deep—floor .....	14	Girl—chair .....	15	Whiskey—bottle .....	
Soft—paper .....	6	High—table .....	6	Child—dress .....	
Eating—wood .....	19	Working—cane .....	15	Bitter—sour .....	
Mountain—chair .....	15	Sour—floor .....	15	Hammer—teeth .....	19
House—window .....		Earth—ceiling .....	18	Thirsty—dry .....	
Black—wall .....		Trouble—chain .....	19	City—good .....	1
Mutton—sky .....	19	Soldier—desk .....	19	Square—wood .....	
Comfort—air .....	18	Cabbage—paper .....		Butter—best .....	10
Hand—table .....		Hard—table .....		Doctor—shoes .....	19
Short—paper .....	6	Eagle—flower .....	15	Loud—music .....	
Fruit—sweeping .....	19	Stomach—match .....	19	Thief—notes .....	2
Butterfly—room .....	18	Stem—match .....		Lion—strings .....	19
Smooth—working .....	2	Lamp—table .....		Joy—happy .....	1
Command—stone .....	19	Dream—chair .....	14	Bed—wish .....	13
Chair—machine .....	19	Yellow—cane .....	18	Heavy—lead .....	
Sweet—radiator .....	19	Bread—flour .....		Tobacco—plant .....	
Whistle—clock .....	19	Justice—peace .....		Baby—good .....	1
Woman—cane .....	19	Boy—window .....	15	Moon—paper .....	6
Cold—flower .....	19	Light—wall .....	18	Scissors—straw .....	19
Slow—cord .....	19	Health—floor .....	18	Quiet—hoop .....	19
Wish—marriage .....	2	Bible—house .....	18	Green—rope .....	19
River—chimney .....	19	Memory—paper .....	6	Salt—dish .....	
White—wheel .....	19	Sheep—dress .....	19	Street—dirt .....	
Beautiful—cane .....	15	Bath—clothes .....	18	King—bucket .....	19
Window—pot .....	19	Cottage—earth .....	19	Cheese—plate .....	
Rough—grass .....	19	Swift—sky .....	18	Blossom—plant .....	
Citizen—paper .....		Blue—trees .....	19	Afraid—sweeping .....	15
Foot—closet .....	19	Hungry—leaves .....	18		
Spider—awning .....	19	Priest—bark .....	18		

CONSECUTIVE No. 216.—State hospital attendant. Incompetent, dull. Numerous non-specific reactions.

Table—rolling .....	19	Needle—small .....	1	Ocean—wide .....	
Dark—swim .....	19	Red—dark .....		Head—large .....	1
Music—playing .....		Sleep—easy .....		Stove—black .....	
Sickness—riding .....	19	Anger—bad .....	1	Long—wide .....	
Man—walk .....		Carpet—small .....	1	Religion—good .....	1
Deep—singing .....	19	Girl—short .....	15	Whiskey—strong .....	
Soft—light .....		High—long .....		Child—small .....	1
Eating—sleep .....		Working—good .....	1	Bitter—bad .....	1
Mountain—low .....		Sour—bad .....	1	Hammer—small .....	1
House—small .....	1	Earth—large .....	1	Thirsty—bad .....	1
Black—dark .....		Trouble—bad .....	1	City—big .....	
Mutton—lean .....	19	Soldier—good .....	1	Square—long .....	
Comfort—good .....	1	Cabbage—small .....	6	Butter—good .....	1
Hand—small .....	1	Hard—apples .....		Doctor—good .....	1
Short—small .....	1	Eagle—small .....	6	Loud—hearty .....	19
Fruit—taste .....		Stomach—good .....	1	Thief—bad .....	1
Butterfly—beautiful .....	1	Stem—short .....		Lion—bad .....	5
Smooth—long .....	6	Lamp—bright .....		Joy—happy .....	1
Command—immediate .....	2	Dream—good .....	1	Bed—easy .....	
Chair—small .....	6	Yellow—light .....		Heavy—stone .....	
Sweet—clear .....	19	Bread—good .....	1	Tobacco—strong .....	
Whistle—long .....		Justice—good .....	1	Baby—small .....	1
Woman—small .....	1	Boy—small .....	1	Moon—large .....	1
Cold—long .....	6	Light—clear .....		Scissors—sharp .....	
Slow—write .....	2	Health—good .....	1	Quiet—baby .....	
Wish—quick .....	10	Bible—true .....		Green—dark .....	
River—long .....		Memory—good .....	1	Salt—strong .....	10
White—clean .....		Sheep—many .....		Street—wide .....	
Beautiful—nice .....	1	Bath—good .....	1	King—high .....	
Window—big .....	19	Cottage—large .....	1	Cheese—good .....	1
Rough—bad .....	1	Swift—fast .....		Blossom—apples .....	
Citizen—short .....	19	Blue—dark .....		Afraid—he .....	12
Foot—small .....	1	Hungry—long .....	6		
Spider—small .....	1	Priest—true .....	19		

## CONSECUTIVE No. 318.—School boy. Non-specific reactions.

Table-board	Needle-sharp	Ocean-big
Dark-night	Red-crimson	Head-little 15
Music-sound	Sleep-wake	Stove-hot
Sickness-pleasantness 9	Anger-mad	Long-distance
Man-people 1	Carpet-floor	Religion-good 1
Deep-river	Girl-good 1	Whiskey-bad 1
Soft-cat 2	High-tall	Child-cute
Eating-pleasantness 1	Working-sleep	Bitter-good 1
Mountain-high	Sour-bad 1	Hammer-hard
House-home	Earth-ground	Thirsty-hard 5
Black-dark	Trouble-bad 1	City-good 6
Mutton-good 1	Soldier-good 1	Square-round
Comfort-pleasure 1	Cabbage-bad 6	Butter-soft
Hand-foot	Hard-soft	Doctor-good 1
Short-little	Eagle-bird	Loud-noisy
Fruit-good 1	Stomach-ache	Thief-good 6
Butterfly-pretty 1	Stem-slender	Lion-big
Smooth-soft	Lamp-light	Joy-good 1
Command-go	Dream-good 1	Bed-comfortable
Chair-sit	Yellow-pretty 1	Heavy-light
Sweet-good 1	Bread-good 1	Tobacco-bad 1
Whistle-noise	Justice-good 1	Baby-pretty 1
Woman-pretty 1	Boy-fun	Moon-cute 18
Cold-bad 1	Light-see	Scissors-sharp
Slow-quick	Health-happiness 1	Quiet-loud
Wish-good 1	Bible-good 1	Green-pretty 1
River-deep	Memory-good 1	Salt-good 1
White-snow	Sheep-pretty 1	Street-narrow
Beautiful-pretty 1	Bath-good 1	King-good 6
Window-look	Cottage-pretty 1	Cheese-good 1
Rough-even	Swift-quick 1	Blossom-pretty 1
Citizen-good 1	Blue-yellow	Afraid-scared
Foot-hand	Hungry-eat	
Spider-bite	Priest-good 1	

## CONSECUTIVE No. 234.—School boy. Non-specific reactions.

Table-chair	Needle-thick	Ocean-water
Dark-cold	Red-cow 17	Head-large 1
Music-sweet	Sleep-dreams	Stove-fire
Sickness-hard	Anger-very 12	Long-snake
Man-wise 19	Carpet-pretty 1	Religion-Jesus
Deep-dark	Girl-small 1	Whiskey-temperance
Soft-sweet	High-tree	Child-healthy 19
Eating-drinking	Working-hard	Bitter-apple
Mountain-snow	Sour-bitter	Hammer-nail
House-great 9	Earth-great 1	Thirsty-water
Black-horse	Trouble-hard	City-houses
Mutton-good 1	Soldier-brave	Square-desk
Comfort-health	Cabbage-good 1	Butter-yellow
Hand-foot	Hard-stone	Doctor-medicine
Short-fat	Eagle-great 9	Loud-harsh
Fruit-good 1	Stomach-weak	Thief-wicked
Butterfly-pretty 1	Stem-watch	Lion-fierce
Smooth-hard	Lamp-pretty 9	Joy-happiness 1
Command-general	Dream-sweet	Bed-rest
Chair-soft	Yellow-buttercup	Heavy-stone
Sweet-good 1	Bread-flour	Tobacco-dirty
Whistle-loud	Justice-man 1	Baby-small 1
Woman-large 1	Boy-gun	Moon-sky
Cold-dreary	Light-bright	Scissors-sharp
Slow-hard	Health-care 2	Quiet-lonely
Wish-fairy	Bible-holy	Green-sour
River-large 1	Memory-poor	Salt-cows 19
White-snow	Sheep-pretty 1	Street-people 1
Beautiful-woman 1	Bath-nice 1	King-rich 19
Window-large 1	Cottage-low	Cheese-yellow
Rough-hard	Swift-stream	Blossom-pretty 1
Citizen-good 1	Blue-bluebird	Afraid-fear
Foot-small 1	Hungry-tired	
Spider-ugly	Priest-church	

CONSECUTIVE No. 809.—Lawyer. 28 individual reactions, of which 14 are classed as normal; 10 are unclassified, most of which are also obviously normal.

Table—chair .....	Needle—tailor .....17	Priest—surplice .....
Dark—candle .....17	Red—flannel .....	Ocean—ship .....
Music—girl .....	Sleep—	Head—hair .....
Sickness—doctor .....	potassium bromide..17	Stove—shovel .....17
Man—woman ..... 1	Anger—teacher .....	Long—pole .....
Deep—swimming .....19	Carpet—tack .....	Religion—Abraham .....19
Soft—hand .....	Girl—belt .....17	Whiskey—Kentucky .....17
Eating—Reisenweber .....17	High—pole .....	Child—baby .....
Mountain—Kipling .....19	Working—laborer .....	Bitter—pepper .....
House—mortgage .....17	Sour—apple .....	Hammer—nail .....
Black—spectrum .....19	Earth—Columbus .....	Thirsty—lemonade .....
Mutton—pig .....	Trouble—lawyer .....19	City—Manhattan .....17
Comfort—chair .....	Soldier—gun .....	Square—Washington ....
Hand—ring .....	Cabbage—plantation ... 2	Butter—salt .....
Short—tall .....	Hard—brick .....	Doctor—nurse .....
Fruit—banana .....	Eagle—feathers .....	Loud—hammer .....
Butterfly—color .....	Stomach—juice .....17	Thief—jewelry .....
Smooth—sphere .....17	Stem—leaf .....	Lion—Androcles .....19
Command—soldier .....	Lamp—light .....	Joy—automobile .....
Chair—teacher .....10	Dream—pillow .....17	Bed—shoes .....15
Sweet—apple .....	Yellow—lemon .....	Heavy—Flannigan .....19
Whistle—policeman ....	Bread—crust .....	Tobacco—pipe .....
Woman—hat .....	Justice—judge .....	Baby—wife .....
Cold—thermometer .....19	Boy—pants .....	Moon—man ..... 1
Slow—invalid .....	Light—gas .....	Scissors—cut .....
Wish—million .....	Health—medicine .....	Quiet—demure .....
River—Hudson .....	Bible—Jacob .....17	Green—eyes .....
White—Broadway .....19	Memory—brain .....	Salt—cellar .....
Beautiful—girl .....	Sheep—wool .....	Street—Wall .....17
Window—school .....	Bath—soap .....	King—Edward .....
Rough—ball .....19	Cottage—rod .....19	Cheese—Roquefort ....
Citizen—justice .....	Swift—ball .....	Blossom—field .....
Foot—shoe .....	Blue—sky .....	Afraid—burglar .....
Spider—insect .....	Hungry—I .....	

### § 9. NUMBER OF DIFFERENT WORDS GIVEN AS REACTIONS.

It has been suggested by Fuhrmann<sup>1</sup> that the number of different words given in response to one hundred selected stimulus words may be used as “a fairly reliable measure of the intelligence and degree of education of a patient.” The test according to Fuhrmann is applied twice in every case, the interval between the two sittings being at least four weeks. “In very intelligent and well educated persons every 100 stimulus words almost always evokes in the first test 95—100 different associations; in the less intelligent and in the feeble-minded the same associations are more frequently repeated. In the second test with the same stimulus words—which is really much more important than the first, since even persons of inferior intelligence may reach higher numbers in the first test—the difference in the wealth of the stock of representations becomes plainly evident:

<sup>1</sup> Diagnostik und Prognostik der Geisteskrankheiten, p. 93. Leipzig, 1903.

the man of intelligence will not need to draw on the associations which he gave in the first test, but will produce new ones; the feeble-minded subject will, on the contrary, repeat to a greater or lesser extent the associations of the first test." "In general the associational capacity of an adult person may be taken to be from 80 per cent to 90 per cent. Should the number sink below 70 per cent the suspicion of a pathological condition must then arise; and the higher the subject's degree of education the stronger is this suspicion. In the case of an associational capacity of 60 per cent or less no doubt of its pathological significance can remain any longer."

Our results are not strictly comparable with Fuhrmann's, because we have obtained but one test record from each subject; it may be said, however, that the results of a single test in each case do not show any considerable differences, corresponding to education or age, in the variety of responses. Further, dementing psychoses, with the exception of epilepsy, show on the whole no diminution in the number of different reactions, although in individual cases this number falls considerably below the general average; and in such cases the diminution may be dependent upon stereotypy or perseveration, and not necessarily upon reduction in the stock of representations.

It would appear from our results that pathological mental states are apt to manifest themselves by a tendency to give reactions belonging to types of inferior values rather than by diminished variety of responses.

We show in Table VI. the numbers of different responses given by our groups of normal and insane subjects, expressed in figures giving for each group the median and the average.

TABLE VI.

	Med.	Av.
86 normal subjects, common school education; records containing not over 10 individual reactions .....	85	84.5
66 normal subjects, collegiate education; records containing not over 10 individual reactions .....	87	86.5
48 normal subjects, school children; records containing not over 10 individual reactions .....	87	84.9
53 normal subjects; records containing not under 15 individual reactions...	90	86.7
106 cases of dementia præcox .....	87	84.2
33 cases of paranoid conditions.....	89	86.5
24 cases of epilepsy.....	78½	75.8
32 cases of general paresis.....	84½	82.4
32 cases of manic-depressive insanity.....	87	85.4

## § 10. CO-OPERATION OF THE SUBJECT.

In our work with insane subjects we encountered many cases in which we were unable to obtain satisfactory test records owing to lack of proper co-operation. Some subjects seemed to be either too confused or too demented to be capable of understanding and following the instructions given them. Others were for one reason or another unwilling to co-operate. It is important to distinguish inability from unwillingness to co-operate, since the former indicates in itself an abnormal state of the mind, while the latter is quite often shown by normal persons.

A subject may co-operate to the extent of giving a single word in response to each stimulus word, and yet fail to co-operate in some other particulars.

He may, instead of giving the first word suggested to him by the stimulus, suppress the first word more or less systematically, and give some other word which may seem to him more appropriate. This probably occurs very often, but does not seem to render the results less serviceable for our purpose.

Further, a subject may react by words related not to the stimulus words, but to each other, thus simulating perseveration; or he may react by naming objects within reach of the senses, thus appearing to be distracted; or he may give only sound reactions.

There is, in fact, no type of pathological reactions which a normal person may not be able to produce more or less readily at will, though in the case of incoherent reactions considerable mental effort may be required, and the end may be attained only by regularly rejecting the first and some subsequent words which are suggested by the stimulus.

In view of these considerations we are led to conclude that the association test, as applied by our method, could not be relied upon as a means of detecting simulation of insanity in malingerers, criminals, and the like.

## § 11. SUMMARY.

The normal range of reaction in response to any of our stimulus words is largely confined within narrow limits.

The frequency tables compiled from test records given by one thousand normal subjects comprise over ninety per cent of the normal range in the average case.



With the aid of the frequency tables and the appendix normal reactions, with a very few exceptions, can be sharply distinguished from pathological ones.

The separation of pathological reactions from normal ones simplifies the task of their analysis, and makes possible the application of a classification based on objective criteria.

By the application of the association test, according to the method here proposed, no sharp distinction can be drawn between mental health and mental disease; a large collection of material shows a gradual and not an abrupt transition from the normal state to pathological states.

In dementia præcox, some paranoic conditions, manic-depressive insanity, general paresis, and epileptic dementia the test reveals some characteristic, though not pathognomonic, associational tendencies.

#### ACKNOWLEDGMENTS.

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#### APPENDIX TO THE FREQUENCY TABLES

##### **General Rules.**

1. Any word combination which is to be found in the frequency tables, but only in the reverse order from that in which it occurs in a test record under consideration, is to be classed as a normal reaction.

2. Any reaction word which is a synonym or an antonym of the corresponding stimulus word is to be classed as normal.

##### **1. TABLE**

Any food or meal.

Any room or apartment.

Any article of table linen, china, silver, or furnishings.

Word designating any special variety of tables.

Any word pertaining to appetite.

##### **2. DARK**

Any source of illumination.

Any enclosure from which light is wholly or in a large measure excluded.

Word referring to physiological pigmentation of tissues exposed to view.

Any division of the diurnal cycle.

Any color or coloring material.

Anything which obscures light.

##### **3. MUSIC**

Any musical instrument.

Name of any composer or musician.

Special or general name of any musical composition.

Term designating rhythm, tempo, loudness, or pitch.

Name of any dance.

Term expressing subjective effect of music.

**4. SICKNESS**

Term designating any disease, symptom, injury, or physiological function.  
Any cause of disease.  
Any means or measure of treatment of disease.  
Any anatomical organ or region.  
Word denoting mode of termination, results, consequences, or indirect effects of disease.  
Any term of prognostic import.  
Common or proper name of any person.

**5. MAN**

Word denoting or implying age of a person.  
Any of the well-known male sexual characteristics.  
Occupation or profession more or less peculiarly masculine.  
Word pertaining to familial relationships or domestic organization.  
Word pertaining to sexual relationships; any word denoting the opposite sex.  
The proper name of any male person.  
Any article of male apparel.

**6. DEEP**

Any vessel or container.  
Any natural or artificial body of water.  
Any depression of surface.  
Any object naturally situated or often artificially placed at a comparatively great distance below the surface.  
Any act of progress from surface to depth.

**7. SOFT**

Any article of food.  
Any fabric.

**8. EATING**

Any article of table linen, china, or silver.  
Any organ of digestion; any function of nutrition.  
Any article of food; any meal.  
Any private or public eating place.  
Word denoting taste.

**9. MOUNTAIN**

Name of any mountain, mountain range, or mountainous country.  
Word pertaining to shape, geological composition, fauna, or flora of mountains or mountainous regions.  
Any term of physical geography.

**10. HOUSE**

Any place of house location.  
Any part of a house.  
Any material used in the construction of a house.  
Any part of the process of construction of a house.  
Laborer or mechanic having to do with the construction of a house.  
Any commercial term pertaining to ownership, taxes, mortgages, sale, renting, or occupancy of a house.  
Any article of furniture.

**11. BLACK**

Any object or substance that is always or often black or dark in color.  
Any color.  
Word denoting limitation or obscuration of light.  
Any word clearly related to the word Black used as a proper name.

**12. MUTTON**

Any article of food; any meal.  
Any animal, or class or group of animals, whose meat is used for human consumption as food.  
Any article of table linen, china, silver; any cooking utensil.  
Word designating any person engaged in the preparation of meats for consumption.  
Word denoting any process employed in the preparation of meats for consumption.

**13. COMFORT**

Any agreeable or disagreeable subjective state.  
Any object, act, or condition that contributes to comfort or produces discomfort.

**14. HAND**

Any simple function of the hand; work requiring special manipulation.  
Word denoting skill or any degree of skill.  
Any part or any tissue of the body.

**15. SHORT**

Any word involving the concept of duration.  
Common or proper name of any person.  
Any word denoting shape, relative or absolute dimension, or distance.  
Any object in which characteristically one dimension exceeds any other.

**16. FRUIT**

Any article of food; any meal.

Any process employed in the cultivation of fruits or in their preparation for consumption.

Word designating any person engaged in the cultivation of fruits or in their preparation for consumption.

Any article of table linen, china, or silver.

**17. BUTTERFLY**

Any bird, worm, or insect.

Any flower.

Any color.

**18. SMOOTH**

Any object possessing a smooth surface as a characteristic feature.

Any fabric.

**19. COMMAND**

Word denoting any means of influence of one mind upon another intended to produce acquiescence.

Word denoting or implying acquiescence or lack of it.

Term applied to any commanding officer or to any person in authority.

**20. CHAIR**

Any article of furniture.

Any room or apartment.

**21. SWEET**

Any substance having a sweet taste.

Common or proper name of a child or woman.

**22. WHISTLE**

Any instrument or any animal producing a shrill musical sound.

**23. WOMAN**

Word denoting or implying age of a person.

Any of the well-known female sexual characteristics.

Occupation or profession more or less peculiarly feminine.

Word pertaining to familial relationships or domestic organization.

Word pertaining to sexual relationships; any word denoting the opposite sex.

Name of any female person.

Any article of female apparel.

**24. COLD**

Name of any location characterized by low temperature.  
Any illness or symptom which may be caused by exposure to cold.  
Any division of the annual cycle.  
Any food that is always or often served cold.  
Any means or measure of protection against cold.  
Any state of the natural elements causing a sensation of cold.  
Word denoting subjective characterization of or reaction to cold.

**25. SLOW**

Any means or manner of locomotion.  
Any word involving the concept of rate of progress with reference either to time or to intensity of action.  
Common or proper name of any person.

**26. WISH**

Word implying fulfillment of a wish either by achievement or through acquiescence.  
Word implying non-fulfillment of a wish.  
Word denoting any state of longing or anticipation.  
Word denoting any state free from longing or anticipation.  
Word denoting a prayer or request.  
Word denoting a state of happiness.

**27. RIVER**

Any body of water.  
Any part of a river.  
Any plant or animal living in rivers.  
Any term of physical geography.  
Any vessel or contrivance for navigation.

**28. WHITE**

Any object or substance that is always or often white or very light in color.  
Any color.  
Any word clearly related to the word White used as a proper name.

**29. BEAUTIFUL**

Any word denoting aesthetic pleasure.  
Name or any female person.  
Any product of the fine arts or of decorative handicraft.  
Any decorative plant or flower.  
Any article of attire.  
Natural scenery.  
Any division of the diurnal cycle.

**30. WINDOW**

Any word pertaining to illumination.

Word pertaining to movements of air.

Any attachment to a window for the control of transmission of light or air.

Any building or apartment.

**31. ROUGH**

Any object or substance which is characteristically rough to the touch.

Word denoting or implying irregularity of surface.

Any skin lesion which may impart to the skin the quality of roughness.

Any word implying carelessness, lack of consideration, or crudeness; any word used to designate action or conduct which may be characterized as careless, inconsiderate, or crude.

**32. CITIZEN**

Any word pertaining to political organization, or to factors either favorable or unfavorable to it.

Any term or proper name of political geography.

Common or proper name of any male person.

**33. FOOT**

Any means or manner of locomotion involving the use of the feet.

Any part or any tissue of the animal body.

Any article of foot-wear.

Any way constructed or used for walking.

Any unit of linear measure.

**34. SPIDER**

Word employed to designate subjective characterization of or reaction to an object of dislike.

Any insect.

Word pertaining to the characteristic habits of spiders, with reference either to location and construction of nest, or to manner of catching prey.

**35. NEEDLE**

Any material used in making clothes.

Any special sewing operation; any occupation in which sewing constitutes part of the work.

Any special kind of needles.

Any instrument which is used in connection with a needle in any operation, or of which a needle forms a part.

**36. RED**

Word which may be used to express subjective characterization of the red color.

Any object or substance which is always or often red in color.

Anything which is by convention or common usage connected with the red color.

Any organ, tissue, or lesion, exposed to view, which may have a red color imparted to it by the blood or by physiological pigment.

Any color or coloring material.

Any word implying light through incandescence.

**37. SLEEP**

Word denoting somnolence or a state of lowered consciousness; anything which is a cause of somnolence or of lowered consciousness; anything which induces a desire to sleep.

Word denoting a state of active consciousness or a transition from lowered to more active consciousness.

Any division of the diurnal cycle.

Any word more or less commonly used to characterize sleep in any way.

Any article of bedding, bed-linen, or night-clothes.

Any article of furniture used for sitting or lying.

**38. ANGER**

Any affective state; any common demonstration of emotion.

Any common cause or provocation of anger.

Action or conduct caused by anger; word used to characterize such action or conduct.

**39. CARPET**

Any material of which carpets are made.

Any article of house furniture, hangings, or decorations.

Word denoting home, house, or any part of a house.

Word pertaining to the manufacture or care of carpets, or denoting a person engaged in the manufacture, sale, or care of carpets.

Any country especially noted for the manufacture of carpets or rugs.

Any color.

**40. GIRL**

Word denoting or implying age of a person.

Any of the well-known female sexual characteristics.

Occupation or profession more or less peculiarly feminine.

Word pertaining to familial relationships or domestic organization.

Word pertaining to sexual relationships; any word denoting the opposite sex.

Name of any female person.

Any part of a person's body.

Any article of female apparel.



**41. HIGH**

Any word denoting or implying skill, training, achievement, or position.  
Any word denoting or implying valuation.  
Any architectural structure.  
Any object of which the vertical dimension characteristically exceeds any other.  
Any act of progress from a lower to a higher level.  
Name of any mountain or mountain range.  
Anything characteristically situated at a high level.  
Anything characteristically variable in height.

**42. WORKING**

Any occupation, profession, art, or labor.  
Direct results or consequences of work.  
Any place of employment.  
Rest, recreation, inaction, or disinclination to work.  
Word denoting energy, material, capital, equipment.

**43. SOUR**

Any substance or object which is always or often sour in taste.  
Any word denoting a taste or flavor quality.

**44. EARTH**

Any substance which enters into the composition of soil.  
Word pertaining to the utilization or cultivation of natural resources; any product of agriculture.  
Any term of physical geography, geology, mineralogy, meteorology, or astronomy.

**45. TROUBLE**

Any affective state.  
Any general cause of active emotional states.  
Any common manifestation of emotion.  
Word denoting or implying defeat.  
Word denoting or implying caution or lack of it.  
Any task.

**46. SOLDIER**

Word pertaining to military organization.  
Word pertaining to any military operation.  
Word pertaining to military discipline or to military decoration.  
Any article of military or naval equipment or attire.  
Common or proper name of any male person.  
Name of any country.  
Word pertaining to political organization.

**47. CABBAGE**

Any article of food; any meal.  
Any article of table linen, china, silver; any cooking utensil.  
Any process of cooking.  
Word used to designate any person engaged in the cultivation of cabbages or in their preparation for consumption.

**48. HARD**

Any solid article of food.  
Word denoting or implying impact.  
Any task or labor.  
Any substance which is hard or unyielding.  
Any agency or process by which a substance is solidified or hardened.  
Any article of furniture used for sitting or lying.  
Any trait of disposition characterized by lack of readiness to yield or lack of consideration for others.

**49. EAGLE**

Any bird.  
Any piece of currency.  
Anything in connection with which the word eagle is used in a symbolic sense.

**50. STOMACH**

Any anatomical organ or region.  
Any article of food; any meal.  
Word pertaining to ingestion and assimilation of food.  
Term denoting health or disease; any medicament.

**51. STEM**

Any object which has a stem.  
Any part of a plant.  
Any object which is long, slender, and more or less rigid.

**52. LAMP**

Any means or source of illumination.  
Word denoting or implying illumination.

**53. DREAM**

Any product of imagination.  
Any psychical phenomenon; any part of the psychical organ.  
Word denoting or implying unreality or uselessness.  
Word denoting or implying mystery or occultism.  
Any division of the diurnal cycle.  
Any article of bedding, bed-linen or night-clothes.  
Any article of furniture used for sitting or lying.  
Any narcotic substance.

**54. YELLOW**

Word which may be used to denote subjective characterization of the yellow color.

Any object or substance which is always or often yellow in color.

Any color or coloring material.

**55. BREAD**

Any article of food; any meal.

Any article of table linen, china, or silver; any cooking utensil.

Any private or public eating place.

Word pertaining to ingestion and assimilation of food.

Any ceremony in connection with which bread is used.

**56. JUSTICE**

Any word implying crime or tendency to crime, legal trial, retribution or lack of it, or repentance.

Any officer of the law.

Word pertaining to judiciary organization.

Word denoting any kind of ethical relationship.

Any deity.

The name of any justice or judge.

Any function of a judicial authority.

Any word denoting or implying equality.

**57. BOY**

Word denoting or implying age of a person.

Word pertaining to familial relationships or domestic organization.

Word pertaining to sexual relationships; any word denoting the opposite sex.

Common or proper name of any male person.

Any part of a person's body.

Any article of male apparel.

Any common boys' toy or game.

Word pertaining to educational organization.

**58. LIGHT**

Any source, apparatus, or means of illumination.

Any color or coloring material.

Word implying light through incandescence.

Any term of optics; any optical phenomenon.

Any object or substance which is characteristically light in weight.

**59. HEALTH**

Any emotion; any common manifestation of emotion.  
Any disease or symptom.  
Word pertaining to prevention or treatment of disease.  
Word pertaining to any normal bodily function.  
Word pertaining to the preservation of health.  
Word denoting or implying a state of health.  
Any athletic sport or form of exercise.  
Any anatomical organ or region.

**60. BIBLE**

Name of any personage mentioned in the Bible.  
Any religion or religious denomination.  
Any name or attribute employed in reference to the Deity.  
Any article or act of religious ritual.  
Word denoting or implying belief, disbelief, or doubt.  
Any term of theology.

**61. MEMORY**

Word pertaining to operations, faculties, endowment, training, or condition of the mind.  
Word denoting any degree of accuracy.  
Word denoting the cranium; any part of the psychical organ.  
Word pertaining to the past.  
Any word implying transiency.  
Any subject of study involving the exercise of memory.  
Any method or means for the reinforcement of memory.  
Any of the senses.  
Word denoting retention.

**62. SHEEP**

Any animal raised or hunted for clothing material, for food, or for its services as a beast of burden.  
Any product manufactured from the skin or wool of sheep.  
Any of the more or less distinctive characteristics of sheep.  
Any food product derived from sheep.

**63. BATH**

Word denoting or implying an effect of bathing on the body.  
Any body of water.  
Any kind of bath; any part of bath, lavatory, or toilet equipment.  
Any material of which a bathing equipment is largely made.  
Word denoting a state of partial or complete undress.  
Any beach or bathing resort.  
Any aquatic feat of gymnastics.

**64. COTTAGE**

Word pertaining to landscape gardening.  
Any place of cottage location.  
Any part of a house; any color.  
Any material used in the construction of a cottage.  
Any laborer or mechanic having to do with the construction of a cottage.  
Any part of the process of construction of a cottage.  
Any commercial term pertaining to ownership, taxes, mortgages, sale, renting, or occupancy of a cottage.  
Any article of furniture.

**65. SWIFT**

Any means or manner of locomotion.  
Word denoting or implying motion or rate of motion.  
Any animal or familiar object characterized by rapid locomotion.  
Any word clearly related to the word Swift used as a proper name.

**66. BLUE**

Word which may be used to express subjective characterization of the blue color.  
Any object or substance which is always or often blue in color.  
Anything which is by convention or common usage connected with the blue color.  
Any organ, tissue, or lesion, exposed to view, which may have a blue color imparted to it by the blood or by physiological pigment.  
Any color or coloring material.

**67. HUNGRY**

Any animal.  
Any article of food; any meal.  
Word denoting taste or flavor.  
Word denoting or implying privation or torture.  
Any article of table linen, china, or silver.  
Any private or public eating place.  
Any organ of digestion; any function of nutrition.  
Word designating any person engaged in the preparation or sale of foods.

**68. PRIEST**

Any religion or denomination.  
Any article or act of religious ritual.  
Any term of theology.  
Word denoting or implying sanctity.  
Word denoting or implying belief, disbelief, or doubt.  
Word pertaining to church organization.  
Proper name of any priest.  
Any article of clerical attire.  
Any profession more or less peculiarly masculine.

**69. OCEAN**

Any body of water.  
Any plant or animal living in the ocean.  
Any term of physical geography.  
Any vessel or contrivance for navigation.  
Word pertaining to navigation; any nautical term.  
Common or proper name of any place bordering on the ocean.  
Any aquatic feat of gymnastics.

**70. HEAD**

Any organization which has a person occupying the highest office.  
Word denoting or implying the highest office of any organization.  
Any intellectual faculty, quality, or operation.  
Any part of the head.  
Any pathological condition affecting the head.

**71. STOVE**

Any part of a stove.  
Any kitchen utensil.  
Any artificial heating apparatus; any fuel.  
Any manner of cooking; any person engaged in cooking food.  
Any article of household furniture.

**72. LONG**

Any word involving the concept of duration.  
Word denoting shape, relative or absolute dimension, or distance.  
Any object in which characteristically one dimension exceeds any other.

**73. RELIGION**

Any religion or denomination; the name of any race or nation.  
Any term of theology.  
Any branch of metaphysical philosophy.

**74. WHISKEY**

Any beverage; the name of any brand of whiskey.  
Any material of which whiskey is made.  
Word denoting taste or flavor.  
Any occasion or ceremony commonly associated with the use of alcoholic beverages.  
Word denoting a state of lowered consciousness.  
Any physiological or pathological effect of alcohol; also any well known indirect effect.

**75. CHILD**

Word denoting or implying age of a person.  
Word pertaining to familial relationships or domestic organization.  
Name of any person.

Any part of a person's body.  
Any article of a child's apparel.  
Any common child's toy or game.  
Word pertaining to educational organization.  
Any word descriptive of the natural physical or mental make-up of a child, or of the rate or degree of physical or mental development.  
Word pertaining to any custom or ceremony connected with the birth or rearing of children.  
Any term of obstetrics.  
Any word clearly related to the word Child used as a proper name.

**76. BITTER**

Any substance having a bitter, sour, sweet, or salt taste, or a complex taste quality which may be characterized as strong.  
Word denoting a taste or flavor quality.  
Any organ of taste.  
Any word in connection with which the word bitter may be used in the sense of poignant.

**77. HAMMER**

Any tool or weapon.  
Any trade involving the use of a hammer.

**78. THIRSTY**

Any beverage.  
Any animal.  
Word denoting taste or taste quality.  
Any part of the upper end of the digestive tract.  
Any drinking place; any container of a beverage.  
Any fruit; any dessert.  
Any food ingredient commonly known to excite thirst.

**79. CITY**

Name of any division of political geography.  
Any architectural structure.  
Any part of a city.  
Word pertaining to the political organization of a city.

**80. SQUARE**

The name of any city.  
The name of any square in a city or town.  
Any geometrical figure or part of one.  
Any object that is always or often square in shape.  
Any device used in the arts for measuring angles, arcs, or distances between points.  
Any part of a carpenter's or draughtsman's square.  
Any trade involving the use of the square.

**81. BUTTER**

Any article of food; any meal.  
Any article of table linen, china, or silver; any cooking utensil.  
Any process of cooking.

**82. DOCTOR**

The name of any physician.  
Any medical speciality or practice.  
Any medical or surgical procedure.  
Any therapeutic remedy or method.  
Any organization for the treatment of disease.  
Name of any injury or disease.

**83. LOUD**

Any sound or sound quality.  
Any part of the human vocal apparatus.  
Any act of vocalization.  
Any musical instrument.  
Any apparatus for making sound signals.  
Word denoting renown or commendation.

**84. THIEF**

Word denoting crime or wrongdoing.  
Word denoting any circumstance propitious for theft.  
Any common measure for the prevention or punishment of crime.  
Any judicial, police, or penal authority.  
Any readily portable article of value.  
Word denoting renown.

**85. LION**

Word denoting or implying fear.  
Any animal.

**86. JOY**

Word denoting a state, quality, faculty, or function of the mind.  
Any common manifestation of emotion.  
Any occasion, act, or means of recreation or of pleasurable excitement.

**87. BED**

Any article of bedding, bed linen, or night-clothes.  
Any article of furniture.  
Any living room, apartment, or building.  
Any part of a room.  
Any division of the diurnal cycle.  
Any material of which beds are made.  
Word pertaining to sleep or rest.



**88. HEAVY**

Word denoting or implying weight or lightness.

Any object or substance which characteristically possesses the quality of either great weight or marked lightness.

Any means of support or suspension.

Any fabric; any article of clothing or bedding.

Word denoting something to be carried or transferred.

Any painful emotion.

Word denoting a state of lowered consciousness.

**89. TOBACCO**

The name of any brand or variety of tobacco.

Term denoting any common quality of tobacco.

Any physiological or pathological effect of tobacco.

Any word which expresses subjective characterization of tobacco.

**90. BABY**

Word denoting or implying age or size of a person.

Word pertaining to familial relationships or domestic organization.

Name of any person.

Any part of a person's body.

Any article of a child's apparel.

Any common child's toy or game.

Word pertaining to any custom or ceremony connected with the birth or rearing of children.

Any term of obstetrics.

**91. MOON**

Any term of astronomy.

Word denoting or implying illumination or obscuration of light.

Any division of the diurnal cycle.

**92. SCISSORS**

Any operation or handicraft involving the use of scissors.

Any fabric; any article of clothing.

Any metal of which scissors are made.

Any tool for cutting, piercing, or sharpening.

Any operation of cutting, piercing, or sharpening.

**93. QUIET**

Any place where silence usually prevails or is enforced.

Word denoting or implying a state of lowered psychical activity or of psychical inhibition.

Word denoting heightened psychical activity.

Any word pertaining to the emotions.

**94. GREEN**

Word which may be used to express subjective characterization of the green color.

Any object or substance which is always or often green in color.

Anything which is by convention or common usage connected with the green color.

Any color or coloring material.

Any plant, collection of plants, or part of a plant.

Any word clearly related to the word Green used as a proper name.

**95. SALT**

Any article of food that is usually seasoned with salt; any seasoning; any relish.

Any article of table linen, china, or silver.

Any process of cooking.

Any term of chemistry.

**96. STREET**

Name of any street or city.

Any part of a street.

Any building.

Any manner or means of locomotion commonly employed in traveling through streets.

**97. KING**

Any name of the Deity.

The proper or common name of any ruler of a nation or of a smaller municipality.

Any nation or country.

Any title of nobility.

Any word clearly related to the word King used as a proper name.

**98. CHEESE**

Any article of food; any meal.

Word denoting any variety of cheese.

Word pertaining to taste, flavor, or odor.

Word pertaining to appetite.

Any article of table linen, china, or silver.

**99. BLOSSOM**

Any plant, collection of plants, or part of a plant.

Any term of botany.

Any division of the annual cycle.

**100. AFRAID**

Any affective state; any common demonstration of emotion.

Any common object of fear.

Word denoting or implying danger, courage; any means of defense or protection against danger.