

THE 1916 STANFORD BINET VOCABULARY TEST REVISED
FOR RAPID ROUTINE PRACTICE.

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FEW patients in British mental hospitals are given a standardized mental test. Such tests may not be indispensable, but properly interpreted they tend to a precision otherwise lacking in clinical observation. Many psychiatrists rely on the answers to haphazard questions on general knowledge, simple arithmetic and so on. These not only have an indefinite significance, but may flatter to deceive.

Practice in the U.S.A. has outstripped us in this regard. This may partly be because we have no standardized test short enough and accurate enough for routine use. Kent's emergency oral test (1932), if modified, where necessary, from its present American to a British content, might suffice. The Stanford Binet 100 word vocabulary test is very commonly used, but takes not less than 15, and sometimes as long as 45 minutes to apply. Time, it is true, may be saved, either by carrying on until the patient fails six words in succession, or by giving half the list and doubling the score. But both these methods sacrifice accuracy, the first, as the present paper proves, because the words are not in their correct order of difficulty for British subjects, the second because the two halves of the test are not equally difficult (Louden, 1933; Babcock, 1933; Peatman and Peatman, 1936). Use of the recently revised list of only 45 words (Terman and Merrill, 1937) also saves time at the expense of accuracy, since it consistently gives too high results (Atwell, 1939; Brody, 1940).

Nevertheless a standardized vocabulary test has many advantages. It is easily explained and understood; it is untimed; it can be given informally and with some latitude; and the examiner can often decide whether the patient knows the word or not even when his answer displays much dilapidation. Thus, a reliable result can often be obtained from patients who will not cooperate with any other test. But the shorter the test the greater its usefulness, especially with difficult subjects whose patience is easily exhausted. The present paper describes a method for giving the original 100 word Stanford Binet vocabulary test quickly and accurately.

TECHNIQUE.

The words on List II are the 100 words of the 1916 Stanford Binet vocabulary test in their revised order, except that every fifth word is replaced by a line. The omitted words are arranged in order on List I. They are numbered 1 to 20 for convenience in indicating them to the testee, but their *true* place numbers are 5, 10, 15, etc., to 100, that is, their number on List I multiplied by five.

Hand List I to the testee and explain the nature of the test. . . . "I want you to read each word I tell you to read, then say what the word means. . . . Look at No. 1. . . . Straw. . . . Now you know what straw means, don't you? . . . Now look at No. . . ."

Normally, start the patient at word No. 10 on List I. Carry on forwards until three successive words on List I are failed, noting the *true* place number of each word as either Pass or Failure (i.e. No. 10 = 50, No. 11 = 55). In so doing, as a rule, the patient will pass on two successive words; but if not, work backwards from No. 10, until two successive passes are obtained, again noting the *true* number of each word and whether it is passed or failed. Credit the testee with the number of words equal to the number of the word which is the first of the two successive passes, at the highest level at which this is possible.

Now take List II, and give each word on List II between the credit level word and the *second* of the three successively failed words on List I. Add the number of words correctly explained to the credit level, including any passes on List I, e.g. :

- (1) *Passed* 50, 55, 60.
Failed 65, 70, 75.
Credit 55 and add words passed between 55 and 70.
- (2) *Passed* 50, 60, 65.
Failed 55, 70, 75, 80.
Credit 60 and add words passed between 60 and 75.
- (3) *Passed* 55; 45, 40.
Failed 50, 60, 65, 70.
Credit 40 and add words passed between 40 and 65.
- (4) *Passed* 50, 60, 75; 45.
Failed 55, 65, 70, 80, 85, 90.
Credit 45 and add words passed between 45 and 85.

NOTE.—(a) Where there are no failures on List I up to and including 75, *credit* 75 and test all words from 75 to 100.

(b) Where there are, *above word No. 50*, two groups of two successive List I passes before three successive failures credit the lower level, e.g. :

- Passed* 50, 55, 65, 70.
Failed 60, 75, 80, 85.
Credit 50 and add words passed between 50 and 80.

(c) Where two successive passes are not reached until the list has been worked back to No. 25, i.e. where the credit level is less than 30, mental defect is probably present, and such a rough test as this should not be used. Where the credit level is only 30 and the total score low, too much reliance should not be put on the test.

These directions may appear complicated, but in practice they are simple to apply.

Scoring.—The scoring is that used by Babcock (1930), which is based on Terman's original means.

<i>Scoring.</i>														
Mental level	20	19	18	17	16	15	14	13	12	11	10	9	8	7
Score	80	75	73	67	62	57	51	46	41	35	30	23	18	13
	Definitely superior.		Slightly superior.		Normal.				Dull.			Defective.		

Interpretation.—In adults the vocabulary level tends to be higher than the mental level in general, and the score should be interpreted with this in mind. I have bracketed some scores with suggestions of how they should be interpreted, but these are no more than suggestions. Each result must be interpreted at the time it is obtained as an individual result applying to an individual patient, with clinical reserve, and with all aspects of the patient under review. I have tried to indicate this by considerable overlapping of the brackets.

EXPERIMENTAL RESULTS.

The revision is based on an experiment with 150 patients to whom the original 100-word test was given in full. All of them were co-operative and the results are quite reliable. Data are shown in the table. It will be seen that the group is about average in intelligence, remembering that in adults the vocabulary level is about a year higher than the general mental level. The revised order was found by arranging the words in the order of the frequency with which they were passed. The validity of the revised order was established by correlating the order for the first 75 cases with the order for the second

Results of Vocabulary Test, etc., in 150 Co-operative Patients.

	Mean.	S.D.	Range.
Chronological age . . .	54·52	12·251	18 to 81
Score in " words correct "			
Original scoring . . .	60·37	15·628	25 to 96
Author's scoring . . .	61·17	15·042	25 to 96
Mental age in years :			
Original scoring . . .	15·64	2·678	9 to 20
Author's scoring . . .	15·85	2·629	9 to 20

75 cases, $r = .981 \pm .0026$. The 150 records were then re-scored according to the new technique. The difference was found between the number of words scored by each person on the two methods, the new technique being on the average 0.793 ± 3.209 words higher. Similarly, the average of the individual differences in mental age is 0.207 ± 0.76 of a mental age year in favour of the new technique. These differences are negligible and the standard errors low. It will also be seen from the table that the differences in the average number of words scored correct and the average mental age given by the two methods is negligible. The validity of the new technique is further indicated by the high correlations between the number of words scored correct ($r = .981 \pm .0022$) and the mental ages ($r = .928 \pm .0076$) given by the two methods. The average number of words required to give the test with the new technique was 25.55 ± 8.195 words. Since devising this revision I have found, in practice, that the test can usually be given in from three to seven or eight minutes.

QUALITATIVE ASPECTS.

Qualitative aspects of the test are sometimes very informative. Disorders of the stream, such as blockage, retardation and acceleration, which might not be apparent when the patient is on the more familiar ground of ordinary conversation, are clearly revealed. Perseveration is shown up very well indeed, especially by the verbs, the word to be defined being perseverated time after time in the response: for example: "*Misuse.*" . . . "That's when you misuse a thing." "*Dilapidated.*" . . . "That's when something is dilapidated." Flippancy, the superb confidence of the manic and the melancholic's lack of it, suspicion, anxiety, apprehension, poverty of affect, and other abnormalities of the mood and attitude assume added significance by appearing in what should be an emotionally neutral situation.

Demented patients are perhaps the most interesting. They exhibit the following kinds of behaviour:

1. *Slow and incomplete comprehension of the task.*—Normally the task need only be explained once and an example or two given, and testee knows exactly what is required. Demented patients comprehend the task slowly and incompletely. Many examples have to be given. They often have to be asked for the meaning of the word right down to the end of the list. Otherwise they merely read out the word, believing that to be sufficient. They have to be prompted, and easily lose their place and have difficulty in finding it again.

2. *Emotionalism*—especially minor degrees of lability and facility are particularly common. Demented patients have to be urged. Otherwise they easily give up at the slightest difficulty. They often ask for reassurance and guidance. They are easily flattered, and greatly pleased with a little praise.

3. *Excuses and escape behaviour.*—Confronted with an unfamiliar word,

normal persons usually confess their ignorance. Demented patients rarely admit it. Instead, they hedge, make excuses, or try to escape it by emotionalism or bluster. "Why don't you get someone younger?" . . . "It's a long time since I went to school." . . . "I'm not feeling very well to-day." . . . "I know it alright, but I can't explain it just now." . . . such excuses are given again and again. Sometimes this behaviour is seen when the patient knows the word but has to be urged to explain it. The need to be urged and reluctance to admit ignorance occur in the same patient on different parts of the same test.

4. "*Concrete approach.*"—The meaning of a word may be given in two ways: either in a general way which covers its usage in most senses, like a dictionary definition, or in a more restricted though quite adequate way, by exemplification. The normal person uses both methods, the general way for the easier words and the exemplification way for the harder words, as a rule. The two ways correspond more or less to Goldstein's abstract and concrete approaches.* Demented patients characteristically give exemplifications and not definitions, even for words well within their power, for example: "Reception." . . . "*That's having a party.*" "Lecture." . . . "*That's when the nurses go to lectures.*" Q. What happens at a lecture? A. "*The nurses learn things.*" Q. But you can learn things in many ways. What's special about a lecture? A. "*Somebody gets up and talks.*" "Rambler." . . . "*A flower.*" "Crunch." . . . "*That's when you eat.*" An average or high total score containing a large number of concrete definitions is highly suspicious of dementia.

5. *Guessing* is, of course, quite normal, though the normal person does not guess repeatedly. The demented person, with his unwillingness to admit ignorance, guesses often and wildly. Possibly this is actuated by a desire to please, on the assumption that anything is better than nothing. This line of argument, common enough in children during examinations, is by the same token a sign of childish attitude, lack of judgment and incomplete understanding of the test situation in adults. Sometimes the form of the guess is inexplicable, but usually the word to be defined is obviously confused with another word of similar sound or appearance. "Shrewd" is often explained as "Shrew," "muzzle" as "muscle," "promontory" as "promotion." Amusing guesses were "misuse" defined as "Miss Hughes," one of the hospital officials; and "palaeology" defined as "the science of friendship."

6. *Perseveration* is very common and very well marked.

7. *Mispronunciations.*—Even when the word is unknown, the normal

* My experience, however, does not fully corroborate Goldstein's theory in detail. I find that the kind of definition is influenced by the nature of the word to be defined (*c.f.* Wells, F. L., 1939. "The Plan of Search at Various Levels of Abstraction," *J. Gen. Psychol.*, **21**, 163-85), and also whether the word is one near the patient's limit or well within his power, suggesting that the *quality* of the response depends on the testee's *quantity* of intelligence relative to the problem. Here is not the place to elaborate this idea. I include this footnote as a reservation to the statement made in the text.

person can usually read it fairly fluently. Dements not only regularly misread unfamiliar words, but sometimes, also, words which they are able to define when they have been read properly for them.

8. *Defective self-criticism and lack of insight.*—Dements show conspicuously defective self-criticism and lack of insight. However badly they are doing the test, their facile complacency remains unshaken. They are quite satisfied with vague and indefinite answers, and cannot understand why the examiner asks for the reply to be expanded. Indeed, the only further response is very often a perseveration of the original answer. Excuses and escape behaviour must not be taken as evidence of insight, but rather as a protest against an unfair task. "You can't expect *anyone* to know that" they say.

None of the kinds of behaviour just described is *exclusively* seen in demented patients. Normals and non-dements exhibit them all at times. Where, however, many of them are grossly exhibited and the total score is at least average, dementia is very probably present.

SUMMARY.

A revision of the 1916 Stanford Binet vocabulary test is presented. It can be given in from three to eight minutes, and the results correlate very closely with the original. It may thus fill the need for a short and accurate test for use in routine clinical practice.

The vocabulary test has, moreover, the advantage of revealing disorders of the stream of mental activity and of the patient's attitude and mood which might be missed during an ordinary clinical interview. Demented patients characteristically exhibit eight forms of behaviour—slow and incomplete comprehension of the task, emotionalism, excuses and escape behaviour, "concrete approach," guessing, perseveration, mispronunciation, and defective self-criticism and lack of insight. Though all of these are exhibited by normals and by non-dements, when they are repeatedly and grossly exhibited by a patient who achieves a good total score, dementia is probably present.

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List I.

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| 1. straw | 11. brunette |
| 2. afloat | 12. stave |
| 3. health | 13. frustrate |
| 4. noticeable | 14. avarice |
| 5. lecture | 15. gelatinous |
| 6. nerve | 16. incrustation |
| 7. guitar | 17. piscatorial |
| 8. insure | 18. theosophy |
| 9. misuse | 19. achromatic |
| 10. priceless | 20. palaeology |

List II.

- | | |
|---------------|-----------------|
| 1. gown | 26. sportive |
| 2. orange | 27. rambler |
| 3. tap | 28. hysterics |
| 4. bonfire | 29. crunch |
| _____ | _____ |
| 6. puddle | 31. skill |
| 7. envelope | 32. peculiarity |
| 8. haste | 33. impolite |
| 9. rule | 34. forfeit |
| _____ | _____ |
| 11. copper | 36. coinage |
| 12. pork | 37. southern |
| 13. majesty | 38. dungeon |
| 14. scorch | 39. treasury |
| _____ | _____ |
| 16. outward | 41. regard |
| 17. roar | 42. Mars |
| 18. curse | 43. juggler |
| 19. plumbing | 44. repose |
| _____ | _____ |
| 21. civil | 46. dilapidated |
| 22. eyelash | 47. tolerate |
| 23. reception | 48. mellow |
| 24. muzzle | 49. snip |
| _____ | _____ |

List II—continued.

51. conspiracy	76. limpet
52. conscientious	77. promontory
53. quake	78. swaddle
54. bewail	79. infuse
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56. alderman	81. cameo
57. shrewd	82. laity
58. ochre	83. declivity
59. exaltation	84. drabble
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61. milksop	86. precipitancy
62. mosaic	87. ambergris
63. disproportionate	88. perfunctory
64. artless	89. harpy
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66. lotus	91. shagreen
67. apish	92. sapient
68. philanthropy	93. depredation
69. charter	94. parterre
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71. flaunt	96. casuistry
72. embody	97. homunculus
73. fen	98. sudorific
74. irony	99. retro-active
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