

## Projective Interpretation of Intelligence Tests

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Intelligence test results given in the form of I.Q. only are often very misleading, particularly where the subject is a deviate one, as is the case with most children seen at child guidance or speech clinics. In all cases a qualitative report is necessary, dealing with the subject's attitudes to the test situation and to the examiner, in order to determine whether the I.Q. is a valid one or not; and in addition a good test report must include some assessment of the subject's personality. This is particularly important where it is not possible to give a battery of personality tests as an aid to diagnosis, and for this reason projective interpretation of intelligence test responses is useful, because it can throw light on aspects of personality which may not be revealed in other diagnostic interviews.

A standard intelligence test differs from a true projective test mainly in the degree of structuring of the stimuli presented to the subject. The questions are framed in such a way that there is—or should be—very little ambiguity, and in theory the questions should have exactly the same meaning for all subjects. In practice, however, there is a wide variation in the amount of ambiguity present in the test stimuli, and in many sub-test items there is ample opportunity for the subject to interpret the meaning of the stimulus in terms of his own personality drives. As a general rule, the more neurotic the subject, the more likely he is to produce these projective responses.

Some examples of responses to the S.A. Individual Scale of Intelligence may illustrate this point. Even a fairly structured test, "Are you a little girl, or a little boy?" may produce a response which is emotionally determined. A response of "No, I'm big" is often related to feeling of insecurity, and frequently a girl may insist that she is a boy, even though she knows quite well that she is not. Less often a boy says that he is a girl, because of a fear of his own masculinity.

There is another group of items in the Individual Scale, where the questions are less structured, but which produce deviate responses in the less adjusted cases. I would include in this category the comprehension tests, which usually produce a standard success or failure, but which may also reveal attitudes of dependence or withdrawal. A very dependent child may preface his replies with

"Ask my mommy," and in one case of an over-protected child with hypochondriacal symptoms, the answer to "What should you do before beginning something difficult?" was "Rest."

Timid, over-anxious children, or those with strong guilt feelings, tend to produce response which stress the dangers of the outside world, and they will do this even when the test questions are moderately structured, e.g., "A snake, a cow and a bird are alike because they can all hurt you;" or, in the sentence-making test, "A boy swam in the river and cut himself on a stone and was drowned," instead of the more usual "A boy threw a stone in the river." Distortions resulting from timidity may also appear in the memories of the reading passage, if the subject "recalls" death or injury. Sibling rivalry or interest in the birth of a new baby may also be shown in these tests, e.g., in one case of this type the subject's responses to the differences test were in terms of origin—"A stone comes from the ground, and an egg from a hen, milk comes from a cow and water from a tap"; and this was followed by what appeared to be a birth-interest response on the similarities test—"A dog and a horse are the same because they've both got big tummies."

In addition to these test items, there are three sub-items on the Individual Scale where the stimuli are so little structured that they might almost be thought of as projective items. The first of these is the picture interpretation test occurring at year 13. The pictures themselves are not as ambiguous as those of a Thematic Apperception test, and the emotions depicted are fairly clear; but the cause of the emotions is not clear, and for this reason the interpretations given may be very revealing about the subject's anxieties or wishes. References to food deprivation, or quarrelling between the parents—"The father's left them, and they have nobody to look after them"—do not necessarily reflect the real home situation, but these responses do indicate the nature of the child's phantasies and sources of anxiety.

Another test of this type is the word association test. For the most part the normal child will give words which are inspired by what he sees around him—"pencil, pen, block, etc."—but the more disturbed subject is likely to produce responses which are associated

with phantasy. One girl sex-delinquent produced 35 boys' names within one minute, an achievement which most people would find impossible to emulate. Other subjects of the same type may produce words associated with exhibitionistic behaviour—e.g., referring to dress, parties, ornaments, etc. Another frequent type is the response met with among regressed or immature subjects, the food response, where a large number of the words are related to food or eating; and among the more aggressive children the words may refer to fighting—weapons, battles, etc.

The third test of this type is perhaps the most revealing of all, and has been selected for special study. This is the Ball-and-field test, which from our point of view has two advantages over all the other sub-tests in the scale. In the first place it appears at two levels on the S.A. Individual Scale—at year 9 and year 12, so that nearly all primary school children, and a large number of high school children are likely to do the test. And in the second place, it is the least structured of all the test items, and therefore produces more emotionally conditioned responses than any of the other items.

#### SUBJECTS AND PROCEDURE IN THE PRESENT STUDY:

The subjects for this study were 200 children seen at the Johannesburg Child Guidance Clinic, selected on the basis of the most recent cases who had done the Ball-and-field test as part of the routine Individual Scale examination. The age range was 5 years 7 months to 15 years, with a median age of 9 years 4 months. Mental age range was 6 years 3 months to 15 years 8 months, median 9 years 2 months, and the I.Q. range was 64 to 148, median 96. In all cases the Ball-and-field test was given as part of the S.A. Individual Scale, with the standard instructions, but in addition the reaction time and total time taken for the test were recorded, as it was felt that deviations from the norm in time scores might indicate the presence of anxiety. Any comments on the test by the subject, or questions about it were also noted.

The records of the group were then divided into passes or failures, using the 9-year level scoring as a basis for a pass, and then these two groups were further sub-divided on the basis of similarity of patterns. The psychiatric diagnosis for each case was then compared with others in the same sub-group, in order to determine whether the Ball-and-field patterns

could be correlated with patterns of personality organisation.

#### RESULTS.

##### A. PASSES:

**Group 1**—Normal passes, with normal reaction time (below 7"). (See diagrams 1-3). This group consisted of 61 cases, of whom 44 were diagnosed as "well adjusted."

**Group 2**—Normal passes (similar to group 1) but with excessively long reaction times—over 7". There were 13 cases in this group, all of whom were diagnosed as responding to "excessive frustration"; i.e., although not well-adjusted, these children were not typical cases of maladjusted personalities.

**Group 3**—Vertical lines (diagram 4). The 5 cases in this group were all diagnosed as "having marked feelings of deprivation, demanding indulgence, or narcissistic."

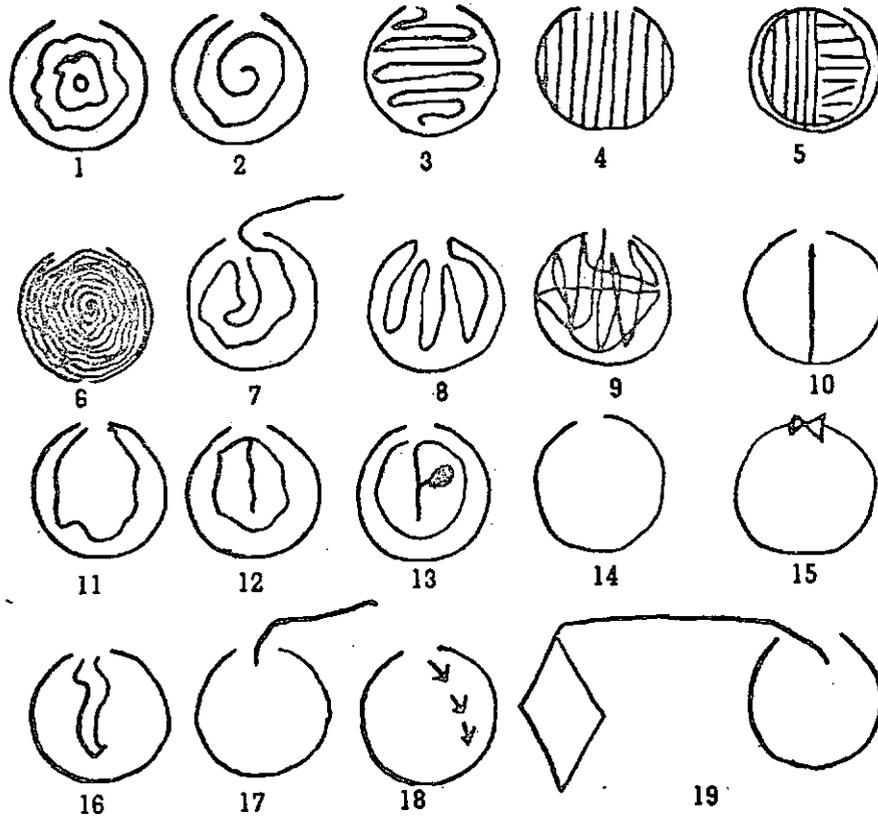
Diagram 5, a combination of "normal" horizontal lines and vertical ones (diagram 5) was produced by a child referred to the clinic for stealing, and was diagnosed as "feeling deprived, because of the mother's self-indulgence"; but the stealing stopped after one interview with the child, and two with the mother, so that it was apparent that the maladjustment was not very deep-rooted.

**Group 4**—Excessively careful filling of the field (diagram 6). All 5 cases in this group were diagnosed as obsessional, and 4 of them were enuretic. Three were having difficulty at school because of "slow work."

**Group 5**—Success followed by flight from the field (diagram 7). The 3 cases in this group were described as "Over-conscientious," but 2 of them showed conversion symptoms, and one was referred for school difficulty.

**Group 6**—The "Phallic" response (diagram 8). The naming of this pattern was a psychologist's hunch, but was borne out by the problems shown by the 7 cases in this group. Five of them were referred for sex difficulties, and the other 2 were enuretics, whose enuresis was related to over-stimulation of sex interests.

**Group 7**—Confused passes (diagram 9). Of the 19 cases in this group, 16 were described in the psychiatric report as "timid" or "apprehensive", 14 of them were referred for school difficulty, although only 4 of them have I.Q.'s below 90. They are apparently children whose anxiety leads to confusion in thinking.



**Group 8**—Normal pattern, long reaction time, accompanied by much questioning of the examiner. These two cases were both referred for school difficulties, and were diagnosed as being dependent and submissive.

#### B. FAILURES:

In assessing the importance of these patterns, the questions should be asked: "What causes failure on this test? In some cases it may be sheer intellectual inadequacy, but in the cases studied, 62% of the children had mental ages over 9 years, and should have passed the test at the 9-year level, while a further 14% had mental ages over 8 years 6 months, and might possibly have passed it, as they passed other tests at the 9-year level. In this group, therefore, it is possible that failure was due to emotional factors, related to the general neurotic pattern of failure on non-verbal tests, or to anxiety as a result of the lack of structuring in the stimulus. The type of failure throws more light on this emotional factor.

In none of the failure groups are there more than 10% of the cases and it is therefore not possible to talk about a "normal failure."

**Group 9**—Single straight line (diagram 10). Of the 20 cases in this group, 11 were described as being "negative" or "resentful to the mother," and 9 were diagnosed as "timid, dependent or overprotected." It would appear that this is the pattern of least effort, and that this may arise either from unwillingness to follow the test instructions, or from dependence and helplessness.

**Group 10**—A circle with or without a line to the centre (diagram 11 and 12). 13 of the 16 cases in this group were described as timid, insecure or withdrawn, and 15 of them had I.Q.'s below 90. This appears to be the pattern of the timid, inadequate personality, with a low I.Q.

**Group 11**—Drawing the ball (diagram 13). Of the 9 cases in this group, 5 were referred for stealing, and the other 4, referred for aggressive behaviour, came from materially deprived homes. All 9 have I.Q., i.e. all these cases have an interest in material possessions, and all have difficulty in dealing with problems requiring abstract thinking because of the low level of intelligence.

**Group 12**—Following the outline (diagram 14). These 8 cases were all referred for school

difficulty, and 7 of them had I.Q.'s below 85. The other child, with an I.Q. of 109 was considered to be the dull child in a bright family, and this pattern apparently reflects the children's awareness of their own inadequacy, with a consequent need for outside support.

**Group 13**—"Closing the gate" (diagram 15). The 5 cases in this group were all described as "dependent, timid, withdrawn," and in 4 cases the parents were described as being restrictive and intolerant of the children's demands. This appears to be a group of timid children, who must "close the gate" on the outside world, for their own protection.

**Group 14**—Drawing a path (diagram 16). This group of 5 children were also timid, but differs from the previous group in that their parents are described as over-protective, so that it is not necessary for them to exclude the outside world.

**Group 15**—Going out of the field (diagram 17). The 4 cases in this group are also timid, but these children have parents who encourage their fears and flight reactions, because of the parents' own timidity.

**Group 16**—Marking the path with arrows (diagram 18). The 3 cases in this group were all referred for school difficulties, and all had I.Q.'s below 80. They appear to be children aware of their own inadequacies who attempt to cover up their failure with a grandiose solution to the problem.

**Group 17**—Joining the "field" and the diamond (diagram 19). The relation between diamond and field on the record sheet of test is quite fortuitous, but three cases felt obliged to join the two. This is not a flight reaction, because in all cases the direction of the line is towards the field. The symbolism may be understood in terms of the family background of these children. All came from home where there was considerable disagreement between the parents, in all cases related to sexual difficulties, and in the psychiatric interview, these children showed anxiety about the quarrelling.

**Group 18**—Miscellaneous patterns. 11 cases could only be classified as "unclassifiable." All this group has in common is that their patterns are unlike all others. Of these children, 6 were diagnosed as "narcissistic," and 2 as "anti-social," and it is possible that the exceptional pattern results from an insistence on doing things in one's own way, or from social non-conformity.

#### CONCLUSION:

Because of the small number in each group further investigation may be necessary in this field of projective interpretation; but it is clear that relationships do exist between personality patterns and response patterns such as those in the Ball-and-field test. The use of this type of interpretation may be of assistance in problems of differential diagnosis, as for example in distinguishing between failures due to low intelligence, negativism or timidity, or assessing degree of adjustment or maladjustment.

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