

.THE RORSCHACH TEST and its CLINICAL APPLICATION

**With special reference to Problem Children
and Epileptics.**

By

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INTRODUCTION

ABSTRACT

The psychiatrist, who was engaged in the diagnostic and treatment of mental disorders, was, in the past, called to assist the more domestic psychological needs, for the individual, for the family, and for the community. These needs, which were also the more chronic cases of mental **SECTION I.** The introduction

Introduction.

clinical psychiatric

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S E C T I O N I.

INTRODUCTION.

Most psychiatrists, who are engaged in the diagnosis, care and treatment of mental disorders, have, in the past, tended to neglect the more academic psychological tests. Nor is this surprising, for there is a formidable array of these tests, and many of them deal with the more obscure minutae of psychological research. They are concerned, mainly - or so it seems to the casual eye, glancing through the journals or archives - with the ponderous amassing of detail, out of which, so far, has emerged little which has an immediate bearing on the more practical activities of the clinical psychiatrist. Most psychological tests have been designed to measure personality in too narrow a sphere. The great mass of psychological testing has been, in fact, restricted to the measuring of intelligence; and a new professional class, the psychometrists, has arisen, who are engaged for the most part, in the somewhat dreary task of measuring accurately the intellectual functions of school children and mental defectives. Intelligence, of course, is not the only factor which has been investigated; for tests have been devised to evaluate school success and vocational aptitude. There have even been a number of rather vague personality tests, which were designed to measure the emotions; but these have fallen

short of their ambitious project and the affective life has remained adamant and impervious to the weapons which have been used against it. This state of affairs was disappointing to the psychiatrist, for the non-intellectual factors of personality very closely concern his work and any test which would evaluate the affective life would be of great interest to him.

"It is an old story that it is one thing to know a patient's intelligence and another to know what are the other elements in his personality; and what these other elements will permit him to do with his intellectual equipment, or, as the case often is, what they will compel him to do with it."⁽²⁾

When, in 1921, Hermann Rorschach published in the second volume of "Arbeiten zur angewandten Psychiatrie" (Bircher, Berne), under the title of "Psychodiagnostik",⁽¹⁾ the methods and results of a diagnostical apperception experiment, consisting in the interpretation of casually created forms, it seemed that the ideal test, from the point of view of the clinical psychiatrist, had been devised. For Rorschach claimed, firstly, that his test was an accurate gauge of intelligence; that, secondly, it evaluated the emotional life of the patient, giving an index to his affective lability and his tendencies to extratension or introversion; and,

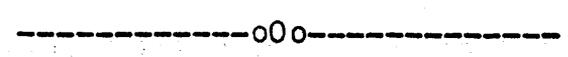
thirdly, that it threw light on the unconscious mechanisms in personality. Further, he announced that individuals could be classified into the various reaction types. He claimed that different reaction patterns were obtained for the different types of normals; for the affective disorders; for the different classes of schizophrenics; for the organic mental disorders; for mental deficiency and epilepsy. In short, he maintained that the test was a diagnostic instrument of surprising delicacy. Over the great majority of other psychological tests also, the Rorschach test maintains certain distinct advantages. Education plays but a small rôle, and only the highly intelligent normals form a contrast; while the same material is used for all grades of intelligence, by which means the results are therefore comparable.⁽²⁰⁾ The material is sufficiently unlike an intelligence test to free the subject from emotional inhibition, incident to the test situation itself, and so gives the clinician a more accurate picture of the equipment available for intellectual functioning in life generally.⁽²⁾

These are almost grandiose claims to make for one test, and it is the purpose of this paper to report on its application to the clinical field, and to estimate the truth of Rorschach's assertions. Further, it will be considered whether this test, in its present form, can become an instru-

ment to be used in the everyday practice of clinical psychiatry, as the Binet Test, or modifications of it, is used in psychometry. A brief outline of the history and technique of the test will also be given, but no attempt will be made, in so short a paper, to describe either fully; nor will the writer deal extensively with Rorschach's theoretical psychology. Sufficient data will merely be given to make understandable the nature of the test and its application.

S E C T I O N II.

Historical.



S E C T I O N II.HISTORICAL.a) PRE-RORSCHACH.

Prior to Rorschach's work, several investigators reported experiments with ink-blot designs. Unfortunately they disregarded previous work and each used a series of ink-blot designs of his own design. Thus no norm, by which their work could be compared, existed; and no one suggested a standardized form of administration or estimation of responses. They had this in common, however, that their findings always tended to show that ink-blot interpretation could throw some light on personality factors.

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In a text-book of Psychology, published in 1895-96, Binet and Henri discussed the reactions of different individuals to "une tache d'encre à contour bizarre sur une feuille blanche" and stated that a person like Leonardo da Vinci could see a variety and number of figures whilst another individual, of lesser imagination, would see nothing at all. Shortly afterwards Dearborn ^(10,11) wrote two articles reporting the method as a useful test of memory, imagination, association and the ability to recognize objects. His second article gives the results obtained from a group of Harvard University students and members of staff. He notes that differences of response were obtained from those of different occupation, environment, and habits of living, but that sex and age made no difference.

Some subjects suffered from inhibition and he wonders whether this was due to indecision between two associative trends or to confusion. The qualitative findings were much more important, he said, than the quantitative.

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In 1900, E.A. Kirkpatrick gave a series of psychological tests to 500 New England school children, and, as a part of this experiment, he used four ink-blots. He concluded that the development of mental capacity is reflected as a more critical attitude towards the interpretations made; thus, a young child would say, "That is so-and-so" while an older child tended to qualify his response by saying, "It looks like so-and-so". He found, too, that the total number of responses was greatest in Grades I to IV; declined in Grades IV to VI; and rose again in Grades VII to VIII. This variation in the average number of responses he took to mean that the younger children were more suggestible and therefore more free of association; the intermediate group were more critical and yet did not have the broad experience and greater range of association shown by the older children. This agreed with the findings of Pyle, who administered a series of twenty ink-
(13) (14)
blots to adults and children; negro and white children; and the brightest and dullest children in each grade of the high
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schools of Kennet Mo. Unfortunately he scored only one factor - the response total - and his results are, therefore, misleading.

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Starch said that "the mind tries to give meaning even to those impressions which are entirely without meaning, and are unlike anything previously experienced", so that each individual, observing an ink-blot, would give "that particular interpretation which is most in accord with his particular mental make-up."

In America, perhaps the most widely used and best known ink-blot series was that of Whipple, who distinguished ⁽³⁴⁾ between passive imaging (spontaneous reverie), and active imaging (inventive activity which dissociates combinations already in the mind and reorganizes them into a new plan). Both active and passive imaging can be measured by ink-blot experiments, according to Whipple.

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Bartlett and Parsons approached most closely to the Rorschach technique, both in analysis of results and administrative procedure. Bartlett's ink-blot were in different shades of grey and colour; he observed that some subjects reacted by giving whole responses (Rorschach's W response) while others paid more attention to details of the whole picture (Rorschach's D response). He anticipated Rorschach's finding that a whole response was indicative of a rich imagination and that an individual who responded with details was more interested in the concrete. He failed, however, to see the significance of a tendency to see movement, although he noted that some subjects had this tendency to a marked degree.

He divided his subjects into two classes; a class which was interested in what was presented to the sense; and a class which gave responses of imagined or suggested material. The first class were of slow reaction and fully realized the task of getting the responses, that is, they had to puzzle out each response as if it were a problem which annoyed them and in which they were not particularly interested; they showed little affect and no creative phantasy. Such a class, he stated, was drawn from philosophers, mathematicians and others "of regular and monotonous ways of life, and little reading." The second group showed quick reactions, wide in range; they elaborated details by associations, which were not in the presentation but in relation to time and sound. In this class were individuals of wide reading, rich imagination and literary interests.

Using Whipple's blots to study the imagination of school children from seven to seven and a half years old, Parsons⁽¹⁸⁾ most nearly approached Rorschach's technique. Unlimited time was given to each subject and the cards could be turned at will. She classified responses as Rorschach does, according to whether the subject saw animals, or parts of animals, humans or parts of humans, landscapes, architecture, etc. Some sex difference was found among her subjects, for the boys were more interested in landscapes and war (the study was

done in 1917), while the girls were more interested in humans and domestic animals. Like Bartlett, she noted that some subjects reacted to portions only of each blot; since they were actively seeking for interpretations, this tendency to break up the picture was indicative of active imagination. There was, however, no "passive" imagination, only "reproductive" imagination, equivalent of memory. "Productive" imagination occurred where the subject interpreted the data presented to him or rearranged the data already in his mind. Whipple's 'passive' imagination was, she said, really the subconscious working of memory. Like Kirkpatrick (v.s.) and Rorschach, she noted that some subjects qualified their responses by saying, "It looks like", while others said, "It is so-and-so", but she did not correlate this with any factor of growth. She did, however, note that an important developmental factor was shown by the far greater mean of "constructive" responses as compared with the "non-constructive". The former are those responses in which two or more associations are related; while the "non-constructive" responses are those in which two or more associations arise to the same blot, with no relationship between them. Those individuals who showed a preponderance of "non-constructive" reaction were (19) thought by Parsons to correspond with Stern's first stage of description - the 'thing' stage. Here, in a measure, she

anticipated Rorschach's finding that the ability to combine details into meaningful and related wholes varies directly with intellectual development.

RORSCHACH'S OWN WORK.

It was left to Hermann Rorschach, a Swiss psychiatrist, to develop the interpretation of ink-blot responses, and to establish norms by careful experiments, the results of which were checked by case histories and psycho-analytic material. His fundamental principle was that imaginative responses to the perception of casually created forms gave an indication of intellectual level and of affective and conative disposition. From his experience, based on normal and psychopathic subjects, he established an empirical relationship between certain modes of interpreting the ink-blot and the corresponding intellectual or affective types. In the midst of these researches, only a year after the publication of his only paper on the subject, ⁽¹⁾ Dr. Rorschach died, and the bulk of his experiments, with the conceptions based on them, was lost to the world.

POST-RORSCHACH.

Since the death of Rorschach, Oberholzer, one of his earlier collaborators, has published posthumously an article ⁽⁵⁾ in which Rorschach demonstrates the use of his test as an

aid to differential diagnosis. The following studies have also been made, using Rorschach's technique and norms: as an aid to personality diagnosis in the feeble-minded and problem children, Beck; as an aid to psycho-analysis, Führer (Zürich); relation between physique and personality traits, Enke and Munz (Marburg); as an aid to studying physical type and performance among prisoners, Mohr and Gundlach (Joliet, Ill); as an aid to studying poetical talent, Stumberg (Chicago); to investigate the mental life of Parkinsonian patients, Veit (Berlin and Freiburg); in school children, Löpfle, Loosli-Usteri (Geneva), and Ernst Schneider (Riga); differences in sibling mentality, the younger Bleuler (Zürich); differences in like and unlike twins, Verschuer (Berlin); feeble-minded, Pfister (Zürich).

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Oskar Pfister examined 59 mentally deficient cases; 26 idiots, 24 imbeciles, and 9 morons, and summarized his results as follows:-

1. The Rorschach form experiment is applicable as an intelligence test to all grades of oligophrenia. It has a number of points of superiority over the usual methods of investigation, of which the most important are:

- a) The execution of the experiment is simple, and subjects of all grades of intelligence are easily induced to take part in the test. Even the lowest idiots give useful protocols.

- b) The subjects are given examples exactly alike for one and all, by which means the results are therefore comparable.
- c) Education plays only a small role - only the highly intelligent subjects forming a contrast.

II. The results are quite reliable with respect to the recognition of grades and special kinds of intelligence defects, in so far as the findings are surveyed and estimated in their totality. The characteristics of oligophrenia as a disease entity come clearly to expression in the mean numbers.

III. The evaluation of colour responses in normals with respect to affectivity, has no applicability to our oligophrenics. Approximately half my cases contradict the Rorschach statements.

IV. The most important contradictions and supplements to the Rorschach assertions from the above material are the following:

1. The number of answers of our oligophrenics is on the average below the mean for normals.
2. The colour responses are much less frequent than given by Rorschach - not once do they reach the normal mean. They give no elucidation for the evaluation of affectivity. Primary colours (C) comprise 77% of colour responses in idiots.
3. Answers which are determined by the position of the picture detail, appear to be characteristic of oligophrenia.
4. Do (oligophrenic details) are lacking in approximately half the cases.

5. The "Erfassungstypus" has no great importance in oligophrenics, as many various determinants may be the basis of whole responses.

V. The reliability of the most important factors and the feasibility of classification according to grades of oligophrenia appear in the following compilation:

	F+%	M	FC	CF	C	W	A%	O%	P%
Oligophrenic average	35	0	.8	1.0	.7	3	61	41	11.7
Idiots	30	0	.7	1.3	.7	2.3	61	51	8.5
Imbeciles	38	0	.9	.8	.6	2.7	65	42	11.3
Morons	48	0-1	.7	1.0	.7	4.1	58	32	15.3
Rorschach normals	60-100	2-4	1-3	0-1	0	4-7	30-35	0-20	?

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Beck reports the findings in response patterns of 69 feeble-minded children. The whole responses varied regularly with certain mental ages, sufficiently so to differentiate for certain mental levels. The mean and range for sharply perceived forms was again higher than for Rorschach's group, but they were sufficiently close to be generally confirmatory of his findings. The mean of F+ tended to be lower at lower mental levels. Increasing quantity of clear impressions and of power for accurate responses as mental age rose, was indicated by this finding. The animal responses were slightly lower than in Rorschach's group, but the range was generally

confirmatory of his norms. The percentage of A responses was consistent with indication of appearance of self-criticism at about mental age eight. No linear relation between mental age and A response percentage was found. Only 20 of the 69 cases in his study showed Do (Oligophrenic responses), and its appearance seemed to bear no relationship to mental level. It was therefore found not valid as an indicator of mental deficiency. The range of O (Original responses) for the Randall's Island group was found to be approximately the same as established by Rorschach for his. The mean movement response for the 69 children was 0.75, and 38, or 55% of these cases were without M. These results confirm Rorschach, although he reported no M responses at all for his defectives. This finding indicated, he said, that the feeble-minded have very little capacity for creative fantasy. The colour (C) response score reached a peak at mental age 5-6 to 6-5. In so far as C responses are a valid indicator of affective liability, as it is claimed by Rorschach that they are, the C responses showed his group to be affectively more labile at about the sixth year of mentality than at levels higher or lower than the sixth year.

Rorschach's claims for the C response as indicator of the tendency to live exteriorly to the self, and the M response as the indicator of the tendency to withdraw within

the self, according to Beck, rest for the present on no experimental evidence, and are therefore speculative in character. "To the extent that his hypotheses may be found valid, to that extent our findings indicate the feeble-minded to be more exteriorly - than interiorly - living." The P (popular) response confirmed Rorschach and Pfister as an index to sociality, since a D/PE difference of a high degree of reliability was found between the median P of children helping onwards and all the rest. But the case history information as to helpfulness was not adequate, and this finding, is for the present, at best, only tentative.

He concludes, "The Rorschach test has, thus, made an approach to the task of studying by the same instrument and in the same application of it, both the intellectual and affective functionings of a personality. For certain of the responses are diagnostic of that hitherto most elusive component in personality, emotional stability; others probe the intellectual sphere, where the attempt is to measure, on the one hand, capacity in regard to both altitude and breadth; on the other, the individual's manner of approach to a problem, i.e. does he combine all its relevant details into meaningful wholes, is he interested primarily in the obvious, concrete detail, or in the minor, unessential one? The test makes a new and significant effort at gauging the direction of a person's

experience, outwardly to his mental life, or within it: the old problem of extraversion-introversion. Lastly the technique approaches the problem of mutual interaction of affect and intellect, as for example, the increase of W, primarily an intelligence indicator, with the affective drive incident to the need to "make a showing". To the extent that this mutual interaction is mirrored in the Rorschach test, to that extent does it fill that most desired of present desiderata in psychological measurement: a usable, objective instrument diagnostic of the personality as a whole. "To that extent". In these words must the evaluation of the Rorschach technique rest for the present. Whether ultimate results will leave us as optimistic as are, without exception, the numerous German and Swiss experimenters, only further experiment can tell. The present writer's experience bears out the conclusions of the Europeans to the extent of seeing the method as penetrating over a broad area of personality and into deep strata of it. How accurate is the picture it gives, or how much modification it must undergo before it can yield substantial accuracy, only further experiment will tell." Beck's findings in applying the test to problem children will be considered in some detail below (Section V).

In studying the psychological foundation of some of the factors of the test, Furrer⁽²¹⁾ considers what part illusion or

pseudo-illusion plays in everyday experience, and cites Wundt's "assimilation" doctrine. The perception of movement in the ink-blot is a pseudo-illusion since the subject is conscious that there is, in reality, no movement; such a response cannot withstand the test of critical reality, (Kritischer Realitätsprüfung). The seeing of movement in an ink-blot is a happening (Geschehen); it amounts to an autistic interpretation and a creative act. Movement responses might be compared with the dream and so represent wish-fulfilment. In primitive people, external motor acts, such as games, mock combats, etc., compensated for prohibited instinctive tendencies, and these game satisfactions were obtained in the later history of the race in phantasy living. Furrer also added the test to psycho-analytic technique as an aid to stimulating associations.

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Enke correlated the findings indicated by the Rorschach Test with the personality patterns in Kretschmer physical types. The pyknics were indicated by the Rorschach test to tend towards more affective self-expression, while the non-pyknics tended to withdraw into the inner self. The Kretschmer schizoids tended to indulge in theoretical abstract thinking, while the cyclothymes tended to be more practical and concrete. The more there appeared an excess of inner living over external rapport, the more typical was the schizophrenic in physique;

the more typical the manic-depressive, the more the excess of external trends appeared in the Rorschach. For his normals, he reported:

In pyknics, excess of extraversion over introversion	-	74%
In non-pyknics " " " " "	-	21.6%
In non-pyknics " " introversion " extraversion	-	52.2%
In pyknics " " " " "	-	15%

There is thus a positive, unequivocal (eindeutig) correlation between affective rapport and pyknic physique; and between inner-living trends and the non-pyknic physique. One of the advantages of the test is that by probing many psychic factors, errors of subjective judgment are eliminated, even though exact accuracy is impaired.

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In a similar study, Munz investigated 103 individuals, of whom 59 were healthy pyknics, 41 healthy non-pyknics, and 3 pyknic-cyclothymes. He reports for his hundred normals that 87 clearly reacted to the corresponding Kretschmer type; 7 were undecided and overlapping; while 6 reacted contrary to type. Taking the pyknics alone, 93% were in agreement. Munz offers several suggestive criticisms regarding the evaluation of Rorschach's factors and urges that the Test is particularly suitable (geeignet) for comparing affective reaction types quantitatively, and for differentiating between the syntonic and schizoid factors of personality.

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Mohr and Gundlach administered the Test as part of a

group of tests given to 89 white men in the Illinois State prison. According to Kretschmer's specification, 26 were athletic, 19 asthenic, and 44 pyknic. They noted no differences in the normal or schizophrenic groupings, but that "a few of the athletic and asthenic individuals classify under manic and melancholic disorders, while approximately one quarter of the pyknics fall into this group."

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In Chicago, Stumberg was engaged in a study of the nature of poetic talent, and the Rorschach Test formed part of a larger series of tests. Unfortunately, she used only the first five and the tenth cards, and considered only the total number of responses (perhaps one of the least important of Rorschach's diagnostic factors) so that she can hardly be said to have used the Rorschach Test fully. She compared the responses of 28 poetic and 28 non-poetic individuals; for the former, she obtained a mean total response of 50.30, and for the latter, 26.94. She adds that even when a poet gave a low numerical score, he compensated by the richness of his interpretation and description; whereas the non-poets who gave a low score, gave little supplementary information.

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Veit administered the Test to 28 cases of post-encephalytic Parkinsonians. He found that there was a limitation in the range of interest, compensated by an increased clearness of perception. Spontaneity and psychic responsiveness (mangelnde,

spontane, geistige Regsamkeit) is also limited. There is a capability among Parkinsonian patients of external rapport and inner living, but both these trends are 'coartiert' (hemmed-in). This is understandable when one considers that such a patient "has to devote a good deal of conscious attention to his movements, and this has a mental effect - it means a sense of unusual effort and a restriction of interest when the movements normally automatic require much voluntary reinforcement." (27) (Henderson and Gillespie). Veit, in estimating the test, states that it probes not only the formal aspects of intellectual equipment, but also inner and outward living trends; it furnishes information with regard to the potentialities of the person, and "the mechanics of psychic apparatus." In a later article, he urges that the test should be more widely employed in order to evaluate its practical worth and theoretical concepts. It had proved serviceable to him in the differential diagnosis of patients showing a mixed manic depressive and schizophrenic picture; in the examination of problem, psychopathic and feeble-minded children and "as a quick survey of a subject's intelligence."

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 A critical attitude towards the test was taken by Löpfe of Zürich, who examined 120 children from the age of two years six months to twelve years six months. The Rorschach findings

of 42 children were compared with reports from their teachers; In nearly 50% there was substantial agreement; in 30% disagreement on cardinal points; and in the remainder the Rorschach findings were considered useless. Löpfle concluded, therefore, that the test as it stands is useless for accurate personality diagnosis, but that it often uncovered psychic factors in a remarkable way. He also added that certain factors were more useful for diagnosis in children than in adults and others less useful.

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The test was used by Loosli-Usteri to make a comparative study of the racial difference of response between children of the Latin race and the Germanic race. To this end, she administered the test to 63 children, aged 10-13 years, in Geneva (Latin race) and compared with Löpfle's responses from the Zürich children (Germanic race). She concludes that children of the Latin race are less autistic and infantile than those of Germanic origin; they are most reticent and reserved; but they show more stereotypy and they have less in common with their milieu in thought. Both groups tend to extraversion and both show equal abilities in concentration. From the above she concludes that "where we do not have the collected graphs of children of the same race, great prudence is necessary in the appreciation of the intellectual development

of the child." The second part of her study consists in comparing the responses of the 63 public school children with the responses of 21 orphanage children, who had been sent there because of illegitimacy, alcoholism in the parents or because they were homeless. That is, they were placed in the orphanage because of family status and not because of delinquency. But 12 of the number were found to have neurotic traits, and these were separated from the group. The 9 remaining were found to be more infantile, negativistic, seclusive, affectively timid and depressed than the children who lived in their own homes. Those who showed overt neurotic traits showed no tendency to infantilism, and Loosli-Usteri concludes that those who do not become neurotic retreat into infantilism. Further comparison between the neurotics and normal orphanage children showed that the former were more negativistic, they tended to inhibit their thinking, and to be consciously on their guard. "All of which", she concludes, "shows that the affectivity of asylum pupils is not normally developed. They have a strong tendency to retire into themselves and have an abnormal difficulty in making an external adaptation."

An investigation which dealt with children whose intellectual capacity was satisfactory, but who were intellectually

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inhibited was carried out by Ernst Schneider. To 87 of these children, the Rorschach and other tests were given. Twenty-one of these were found to vary from test to test, and were made the subject of special personality investigation. Comparative findings of school reports and Rorschach examinations are given; 15 of the 21 showed a tendency to escape into a fantasy world with decrease of adjustment to reality, passivity, depression, neurotic and psychotic tendencies. The chief factor which produced the discrepancy of psychometric results was inhibition. Schneider concludes that the Rorschach test results agreed closely with the school reports; that the test was as valuable as other intelligence tests; was a useful instrument for detecting inhibition in school children, and in studying personality as a whole.

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The younger Bleuler used the Rorschach test to study the similarity of response between siblings and non-siblings. In this study he used 49 groups of siblings, which made a total of 141 sibling records, to be compared with those of 200 unrelated individuals. The siblings were patients of about 20 years old in a Cantonal hospital in Switzerland, while the non-siblings were drawn from two orphanages and an institution for the subnormal. Variations in age were eliminated by comparing records in which the age differences were not

greater than 5 years for subjects of more than 20, and not more than 3 years for subjects under 20. He noted that there was more similarity in siblings than in non-siblings and that unusual responses of a like kind tended to appear in like siblings. The same response occurred 4 times more often in siblings than in non-siblings. These similarities were not, he concluded, based on environmental influences, but on hereditary factors. Mental retardation was found in a large number of orphanage cases, and Bleuler criticises his findings because of this, but even here the similarity of response was easily traced to heredity.

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The Rorschach test was used by Verschuer as part of a study of the relative influence of environment and heredity in the personality of a hundred pairs of twins. Twenty-three pairs of like and 23 pairs of unlike twins were then compared and differences in incidence of Rorschach response factors were inspected for the members of the pairs of twins, and curves of the means of the differences of the two groups were plotted. The mean difference was greater for the unlike than for the like twins in all factors but one, and Verschuer concludes that the psychic processes investigated by the test are founded in hereditary factors. The second part of the investigation was devoted to studying the variability shown in the

test-findings of the unlike twins, the curve of which was irregular for the various test factors. This irregularity may be caused (a) through differences in the proportion of environmental influence upon the mental processes underlying the Rorschach test responses; or (b) by the element of error in the test, which may vary in amount from one test factor to another. Verschuer believes that the second possibility is correct. In other words, the test probes deeply into personality at the expense of exactitude. It is, however, a most useful test, he says, for indicating the factors of intellectual and affective disposition, and particularly as it gives a glimpse into the structure of the personality.

SECTION III.

- a) The Origin and Standardisation of the Test.
- b) The Test Material.
- c) Administration of the Test.
- d) Classification of Responses.
- e) Scoring of Responses.
- f) Interpretation.

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S E C T I O N III.a) THE ORIGIN AND STANDARDIZATION OF THE TEST.

Before establishing his norms, Rorschach did an immense amount of experimentation over a period of some ten years, but unfortunately, owing to his early death, we do not have a detailed history of this work. Even at the time of publication of "Psychodiagnostik"⁽¹⁾, he emphasises the empirical character of the whole work. He adopts the attitude that the test is a psychological experiment and that his results are purely tentative. With reference to the usefulness of these findings, Rorschach says (p.128), "The test was originally conducted on theoretical lines. The fact that the results of the test could be used diagnostically appeared by accident, and purely empirically. In that way, the experimental test became an examination test. To begin with, the diagnostic application was used to control the results themselves. Then tentative diagnoses were made on patients unknown to me, after records had been made of them by my colleagues. The more accurate these diagnoses were - without regard to the age or sex of the patient, and whether he was healthy, neurotic or psychotic - the more certain was it that the method was a correct one." Rorschach's norms, given below, were standardised on 405 individuals and these norms are taken as

a basis on which all investigators work (p.19):

	<u>Men</u>	<u>Women</u>	<u>Total</u>
Educated normals	35	20	55
Uneducated normals	20	42	62
Psychopaths	12	8	20
Alcoholics	8	-	8
Morons, Imbeciles	10	2	12
Schizophrenics	105	83	188
Manic depressives	4	10	14
Epileptics	17	3	20
Paralytcs	7	1	8
Senile dementias	7	3	10
Arteriosclerotic dementias	3	2	5
Korsakovs and similarly diseased subjects .	3	-	3
Total:	231	174	405

Rorschach does not state that the classification of the terms 'debile' (Moron), and 'imbezille' was made on the basis of any intelligence test.

b) THE TEST MATERIAL.

The chance-forms were constructed by scattering blots of ink on a sheet of white paper which was then folded in the centre and smoothed with the finger; this is then pasted on to a square piece of cardboard. He states, however, that only certain designs so formed can be used, and lays down several conditions which must be fulfilled (p.1): "Firstly, the forms must be comparatively simple; complicated pictures make the scoring of the factors of the test much too involved. Secondly, the symmetrical placing of the blot on the sheet must fulfil

certain conditions of 'space-rhythm'. If this is ignored, the cards fail to look like pictures, and the result is that many subjects reject them on the ground of their being 'simply ink-blots', and give no interpretations whatsoever. Apart from these general conditions, each picture of the series has several special conditions to fulfil. As each separate picture and also the whole series, must be exhaustively examined before it can be fit for use, the compiling of a suitable series of ten pictures is not as simple a matter as might at first sight be expected. The pictures, from the point of view of construction, are symmetrical with very strict deviations between the two halves. Symmetrical pictures are rejected by a great many subjects. Symmetry gives a certain amount of rhythm to these figures. Admittedly, it has the bad effect of making the interpretations somewhat stereotyped. On the other hand, however, the same conditions for right and left sides are thus made possible; it further makes the reaction easier for seclusive and shut-in people. Finally, symmetry promotes the interpretation of complete scenes. In the case of asymmetrical and unrhythmical pictures, after a normal interpretation had been submitted as a standard, it would still be possible for new factors to be added to the results; a question which we cannot take up here. The examin-

ation of the sensitivity of the individual would be a thesis in itself."

The test material as now used, and on which Rorschach founded his norms, consists of ten symmetrical designs printed on white paper mounted on stiff cardboard. They are always presented in the following order:

1. Dimensions: $7\frac{5}{8}"$ x $3\frac{3}{4}"$. A dark mass of black and shades of grey with four white spaces near the centre.
2. Dimensions: $4\frac{5}{8}"$ x $5\frac{1}{4}"$. Two dark masses with a white space in the middle, two irregular masses of red at the top and one mass of red connecting the lower middle part of the black.
3. Dimensions: $4\frac{5}{8}"$ x $4\frac{7}{8}"$. A very irregular and unconnected mass of black with much white space between, one red mass in the middle, and one at each top corner.
4. Dimensions: $6\frac{1}{4}"$ x $4\frac{7}{8}"$. A heavy mass of black and shades of grey; small white spaces at either top corner and in the lower middle part.
5. Dimensions: $6\frac{7}{8}"$ x $3"$. A heavy triangular mass of black and grey.
6. Dimensions: $5\frac{5}{8}"$ x $6\frac{3}{8}"$. A light grey mass with streaks of black.
7. Dimensions: $6\frac{1}{8}"$ x $5\frac{1}{2}"$. A U-shaped mass of light grey.
8. Dimensions: $5\frac{5}{8}"$ x $5\frac{1}{8}"$. Various pastel shades of pink, orange, blue and greyish-green with many white spaces, but having neither black nor grey.
9. Dimensions: $5\frac{7}{16}"$ x $5\frac{1}{8}"$. A more solid mass of pastel shades - green, pink, pink-brown, blue, purple, etc. Upper centre is occupied by large white space which shades into the colours - some small white spaces among the other colours.

10. Dimensions: $7\frac{5}{16}$ " x 6". This gives the impression of solid splashes of colour, separated by many white spaces, although most of the colours touch each other - crimson lake, two shades of blue and green, yellow, brown and one irregular grey mass.

c) ADMINISTRATION OF THE TEST.

The administration of the test is simple in the extreme. The patient sits with his back to the examiner, and the cards are handed to him, in order, with the question, "What do you see here?" or "What might this be?" It is often useful to explain how the designs are made, as time may be uselessly occupied by the patient attempting an explanation of their origin. Occasionally a diffident or suspicious patient may require encouragement; the examiner may say, for instance, "Most people see something". If the patient asks, and only if he asks, he can be told that the card may be turned at will, so that the design may be examined from all angles. Suggestion must, of course, be avoided, and, with the average patient, the examiner need say nothing, with the exception of the first question, until the test is finished. Everything said by the patient is recorded verbatim by the examiner, who notes also the position of the card, and the part of the blot interpreted. The total duration of the examination, as well as the time which elapses between the patient's receiving a card and his

first response should also be recorded. When the patient has gone through the ten cards, the examiner should revise each response, and question the patient if necessary, and again without suggestion, to determine what elements he is justified in scoring later. The examiner, of course, must not say anything which may suggest any of these elements to the subject - e.g. he cannot ask the subject, "Is the whole picture an animal?" or "What part is the animal?"; rather he should say, "Show me the animal."

Having located the portion reacted to, the examiner should next ask, "How do you know it is an animal?". If the answer is, "By the shape of it," the response is scored as "form", or if the answer is "Because it is green, like a frog, and it has a frog's legs," then "colour" and "form" can be scored, and so on.

a) CLASSIFICATION OF RESPONSES.

I. Its mode of apperception, i.e. whether the design is interpreted as a whole (W): as a detail (D): as a rarely perceived detail (Dr): etc.

II. Its quality, i.e. whether form (F), colour (C), shading (Fc), stereognosis (Ch), or movement (M) is perceived.

III. Its content, i.e. whether the response is that of an animal (A), human (H), landscape (s), etc.

(Note to page 31).

The English symbols used by the writer are those produced by Dr. F.L. Wells and Dr. S.J. Beck of the Boston Psychopathic Psychological Laboratory. These, with Rorschach's symbols, and the German titles, as suggested by Dr. S.J. Beck in his paper, "The Rorschach Test and Personality Diagnosis"⁽⁴⁾, are given below.

<u>Symbol</u>	<u>Title</u>	<u>German Symbol</u>	<u>German Title.</u>
W	Whole	G	Ganz
dW	Detail-whole	DG	Detail-Ganz
D	Detail	D	Detail
Dr	Rarely Perceived detail.	Dd	Kleindetail
Do	Oligophrenic detail	Do	Oligophrenic-Klein-detail
Ds	Whitespace detail	Dzw	Zwischenfigur
Drs	Rare Whitespace detail		not used by Rorschach
App	Apperception type	ERFt	Erfassungstypus
M	Movement	B	Bewegung
C	Colour	Fb	Farbe
CF	Colour-form	FbF	Farbeform
FC	Form-colour	FFb	Formfarbe (2)
F(c)	Shadings	F(Fb)	Used by Oberholzer
Ch	Stereognosis		Not used by Rorschach
F	Sharply perceived form	F	Gute Formen
F-	Poorly perceived form.	F-	Schlechte Formen
H	Human	M	Mensch
Hd	Human detail	Md	Menschdetail
A	Animal	T	Tier
Ad	Animal detail	Td	Tierdetail
Ls	Landscape	Indsch.	Landschaft
At	Anatomical		The first five content designations and "Objekt" are the only ones regularly appearing in Rorschach. When the others appear, they are designated by the usual German word for them.
Bo	Botanical		
Mt.	Mountain		
Wr	Water		
Ar	Architecture		
Cl	Clouds		
Oj	Object	Obj	Objekt
O	Original	O	Originel
P	Most popular response	V	Vulgar

IV. Its originality or popularity.

After the responses have been scored, they are tabulated as follows:-

e.g. from a case of schizophrenia-simplex -

Total Responses - 17.

<u>Manner of Apperception</u>		<u>Quality of Interpretation</u>		<u>Content of Interpretation</u>	
W	0	M	0	H	1
dW	1	C	0	Hd	2
D	9	CF	0	A	9
Dr	7	FC	0	Ad	4
Ds	0	F	14	Is	0
Do	0	F-	2	Bo	0
		F(c)	1	oj	0
				F(c)	1

F% - Mode of Apperception (Erfassungstypus) - D, Dr.

A% - Type of Apperceptive experience (Erlebnistypus) - 0 C - 0 M

O% - Type of Succession - Stereotyped

P% - Rejections - Two.

It is from the above summary that Rorschach forms the basis of his interpretation, to which, in its totality, Oberholzer gives the name "Psychogram".
(5)

e) SCORING OF RESPONSES.

The scoring of responses is a matter of experience, and, at present, no hard and fast rules can be laid down. There is an insufficient number of detailed norms, and tables classifying responses actually obtained, to score all responses on a quantitative basis. Experimental work will, in time, accumu-

late a sufficient number of obtained responses to lay down some such quantitative basis, and the major difficulties of scoring will be over. Until then, each examiner must learn by his own experience and this constitutes one of the chief hindrances of the general use of the test.

Certain generalisations can, however, be made, but it must be remembered that there are many more points on which opinions only have been expressed.

I. Modes of Apperception.

The difficulty here lies in distinguishing between D (normal detail) and Dr (rarely perceived detail). The examiner must learn to make the distinction by obtaining his own norms. In the case of children, Löpf⁽⁶⁾ has laid down the general rule, that each part of the card interpreted once in twenty-two times for all the interpretations given for the card, is a normal detail, while all other parts interpreted a smaller number of times is a Dr, irrespective of the size of either. Löpf⁽²⁸⁾ has also introduced what he calls "infantile details"; that is, details which are D among children, but Dr among adults.

(1)

Oligophrenic details (Do) are defined by Rorschach in the following way:- "We speak of 'Do' if the subject sees only a part of the body when the normal subject sees the whole". That is, a detail usually interpreted as a "human

being" will be referred to as a "man's head" or a "human hand."

II. The quality of Responses.

(a) Perception of Form. These form the bulk of responses and are divided by Rorschach into two categories: F+ or (1) "gute Formen" and F- or "schlechte Formen". In his own words: "the norm and basis were these form-responses which are given with very great frequency by a large group of healthy individuals. Thus a certain normal range of form reaction appeared, a large number of frequently recurring responses, which are to be evaluated as sharply perceived (gute Formen) responses. Whatsoever is seen more clearly than these form responses is similarly noted as F+; what is more poorly, less clearly (schlechter, unschärfer) perceived is F-." In other words, "when the response falls within the genus of things named in the reaction to that design or detail, it is called F+: otherwise F-. When within the genus, and enriched, it is F+ and also O+; when not within the genus and quite unrecognizable for what it is called, it is scored O-." *

This method of scoring seems to lead to inconsistencies in the case of very superior normal adults, for they give a large number of original or individual answers which both the examiner and the examinee may consider to be sharply perceived form, but, which, none the less, must be scored F-, on a statistical basis. Physicians for instance, give a large number

* From a personal communication from Dr. S.J. Beck.

of F- anatomical responses. A very striking example of an individual answer which, on a statistical standard, had to be scored F- O-, was given to the writer by a normal adult of exceptional intelligence. "This suggests a fish peeping through marine vegetation. It calls to mind Thomas Hardy's -

'Dim moon-eyed fishes here,
Gaze on the gilded gear
And query, "What does this
Vain-gloriousness down here?'

Although "one of the components (of intelligence) is the sharpness of form perception" ⁽¹⁾ it must be understood that superior normal adults have a lower \bar{F} % than would be expected owing to their wide range of associational processes.

(b) Perception of Movement. Rorschach defined his "Bewegung" or "Kinaesthetic" responses as "memory pictures of movements formerly seen, imagined, or carried out by the patient himself"; and again, "we speak of movement responses when the subject represents the content of his interpretation as being in motion; for example, in card I; "Two angels moving their wings"; card II: "Two clowns dancing": card III: "Two dandies saluting each other." ⁽¹⁾ These are quite obviously kinaesthetic responses, but Rorschach makes further conditions: "Not all the movements of which the subject speaks have, as a basis, true movement. Responses, such as "a goose diving" "a bird flying", "a volcano in eruption" are not, in the

(1)
 majority of cases movement." In general, kinaesthetic responses are to be found only in responses which refer to human beings or animals which, by their movement, resemble humans. True movement is seldom found in the smaller or Dr responses. Finally, there are certain responses which, according to Rorschach, are always kinaesthetic, whether the subject states it particularly or not; and with these "classical" movement responses, the examiner must be familiar.

(c) Perception of Colour. A good example of pure colour (c) response is "That red part looks like blood"; but, supposing the subject says, "This card is nicely coloured. I like the blue and green parts", are we to score this as "C" or not? In other words, can we give the same diagnostic value to a response which stops short at description, as to a response which has an associative meaning attached? Here again we do not have sufficient statistical data to answer the question. At present, while material is being collected, the general procedure is to score them equally. Needless to say when the patient uses a colour to identify a particular detail, as in "This blue part is a tree", it is not scored as colour.

Often it is difficult to decide whether colour (CF) or form (FC) is predominant in a response. In general, one may say that in a psychogram containing pure colour (C) responses,

which are easily classified, it is probable that it is more a question of colour-form than of form-colour.⁽⁷⁾ It is preferable, however, to decide the matter by careful questioning of the patient.

The numerical evaluation given by Rorschach to the various C responses is as follows:- C, 1.5: CF, 1.0: FC, 0.5: F(c), 0.5. As will be seen later, the weighting is thus in proportion to the amount of impulsivity indicated by each type of C response. This evaluation is used in calculating the type of affective experience (erlebnistypus).

(d) Perception of Chiaroscuro, and Stereognosis, F(c) and Ch.

F(c) responses refer only to those responses where the fact of greyness determines the answer. Many responses are determined by the greyness of shadings, though the patient may make no direct mention of it, just as a detail may be referred to as a "flower" because of its colour. In the Ch responses, there must be stereognosis, whether light or depth or distant perspective. In the case of cloud responses, it is not always certain whether they should be scored F(c) or Ch, nor can the patient always assist the examiner in coming to a decision. *

* From a personal communication from Dr. S.J. Beck.

III. Content of Responses.

(a) Original Responses. The criterion for an original response is that it shall not occur more than once in a hundred times, among healthy normals. They are further divided into "good" originals (O+) and "poor" originals (O-); the former are given by individuals possessing "clear impressions, facilitating sharply perceived forms; of an optimum variability in its functioning, i.e. lability of impressions. Coupled with these, there must be a great wealth of visual impression."⁽¹⁾

The "poor" originals, on the other hand, deviate so far from the average as to be original and are absurd and improbable. It is a general rule, therefore, that F+ responses are "good" originals if they are enriched and F- are "poor" originals if they deviate too far from the average as to be original. An F+ is never followed by an O-. Other responses such as M, FC, or CF should be similarly scored plus or minus, and their originals, O+ or O- respectively.

(b) Popular Responses. These are defined by Rorschach as the answer given by about one person in three.⁽⁴⁾ Beck, however, considers this formulation too indefinite, and substituted for it, "Those responses which recur so regularly, in the case of a design or detail of it, that they may be considered

reactions to the popular mind."

(c) Precision Responses. By precision responses is meant the enumeration of different parts of a human being or animal, after this has been interpreted as a whole; e.g. "This would be a headless female body in which this would be the pointed toes, as of a ballerina; and this the legs; and this the belled skirt." The "headless female body" alone is scored - the remainder is precision, and no new interpretation is given.

(d) Description Responses. These are simple descriptions of the design or some part of the design, e.g. "Both sides of the picture are alike" or "This is a strange-looking design" and are not scored. It was noted above, however, that descriptions of colour are scored.

IV. Certain Other Concepts of Scoring.

(a) Type of Apperception - "Erfassungstypus". The type of apperception is the proportion between the various parts of the card reacted to, i.e. between W, D, Dr, etc. As a normal average among healthy adults, we should obtain, with the same number of answers, W:8, D:23, Dr:1. The formula or type of apperception would in this case be represented by W- D.

(b) Type of Succession. This is the sequence of the modes of apperception in the responses given to each card. A

"regular" succession means that the subject is inclined first to interpret W, followed by D, and then Dr or Ds, so that the modes of apperception have a certain logical sequence. Other types of succession are designated as "variable", "loose" "strict", or "taut".

(c) Colour Shock. "The hesitancy in the association processes on the appearance of the coloured cards, whereas, previously with the black pictures, the interpretations were much more prompt."⁽⁵⁾

f) INTERPRETATION.

Having administered and scored the test, one has accomplished by far the easiest part; for the interpretation of the Rorschach Test findings is a difficult and somewhat lengthy process, even to those who have spent years in familiarising themselves with it. Here, indeed, the Socratic principle that the more one knows the less one thinks one knows, is appropriate, and even the recognised experts are somewhat diffident of making a diagnosis. Rorschach himself had developed the interpretation of the experimental records to an astonishing degree, one might almost say to dizzy heights, and anyone who wishes to see a vivid example of his skill should read the article⁽⁵⁾ which was published posthumously by Oberholzer. In this paper,

it is not possible to go very deeply into the subject of interpretation, and it is proposed only to examine briefly the significance of certain of the factors or concepts, and, finally, to outline how these are woven into the psychogram.

(1)
 (a) W. Responses. According to Rorschach, the capacity to bring the details of a situation into a whole, serves as "an indicator of the energy which is directed towards associational activity;" and, therefore, W. responses appear to be a function of intelligence. In Rorschach's table of norms for W responses at the different levels of intelligence, individuals of very superior intelligence give ten or more W responses; those of average intelligence, four to seven; while imbeciles give, at most, two. A large number of "primary" W's (in which the reaction was to the card as a whole without mediation of details) may be, on the one hand indicative of a philosophical or fantasy tendency; or on the other hand, an overtendency to generalising trains of thought. When the subject interprets W rapidly and cleverly, mingling abstract and constructive as well as combinatory association processes, then intuitive capacities may be inferred with certainty.⁽⁵⁾ These intuitive responses are given by people who have a "dilated" type of psychic reaction, i.e. who give many M and C responses.

dW, or "secondary" responses, in which a patient perceiving a detail, interprets the entire as suggested by the detail, when combined with good intuition, indicate a capacity to visualise broad general connections, to organise, etc. Without good intuition, the subject may remain blind to many essential factors.

(b) D. Responses. A greater number of D responses than the normal indicates that the subject is practical rather than theoretical, eschewing the abstract, seizing on the tangible, evaluating cleverness above intelligence and somewhat lacking in imagination. If the subject, on the other hand, gives too few D responses, and does not interpret those details chiefly in evidence because of the structure of the picture, then we may infer a tendency to overlook what is essential and easily grasped.

(c) Dr. Responses. The picking out of small absurd details in the picture is characteristic of persons suffering from schizophrenia. ⁽⁵⁾ But ~~if~~ there is a distinct tendency to note the unusual parts of the picture, but not absurd details, then we infer an over-emphasis of the non-essential as a whole. The subject may have a tendency to lose himself in trifles, to brood over accessories, or he may be a careful and painstaking observer, without, however, the capacity for abstraction.

(d) Do. Responses. These, according to Rorschach, are indicative of feeble-mindedness, of anxiety, depression or compulsion phenomena. According to Beck and Pfister, however, the Do concept is of little, if any, value as an index to abnormal states, but judgment in this direction would have to await further experimentation. (4)

(e) Ds. Responses. White-space form details always signify a spirit of opposition. If the subject has an extra-tensive psychic reaction then the opposition is directed towards the external world, in the form of defiance, belligerence, contradiction and caprice; if ambiequal in type, the negativism is directed against the subject's own consciousness in the form of doubt, indecision, affective ambivalence, and sometimes obsessional thoroughness; if the type is introversive, the subject is at war with his own most inner self, with resulting distrust of himself, feelings of inferiority, scrupulousness or asceticism. (5)

Type of Apperception and Succession. Under this heading, we are concerned with the subject's intellectual capacity of adaptation. By comparing the subject's mode of apperception with that of the normal adult, we are able to see whether there is any usual correlation between the factors and this forms a reliable path of investigation. There are, in fact, a large

number of correlations which permit of the main lines of the psychogram being grasped. The succession, in itself, gives insight into the way in which the subject meets and deals with new situations. If the succession of W, D, etc. is taut, i.e. if the subject interprets W, then D, then Dr, in the same order with great regularity, then the subject is a good logician but unaccommodating and programmatic. Similarly, we look for evidence of coherent or incoherent adaptable or rigid, spasmodic or programmatic types of thinking.

(1)
Form Responses. To quote Rorschach, "one of the components (of intelligence) is the sharpness of form perceptions. A high percentage of sharply perceived form presupposes, firstly, a certain capacity for concentration: when attention is disturbed, as through flightiness, fatigue, delirium, or elation, form perception becomes vague. Secondly, the possession of sharply formed impressions (Engrammen); with memory pictures vague - as in the feebleminded or organic syndromes - a sharp recognition of form is not possible. Thirdly, the ability to bring these memory pictures to consciousness (Exphorieren). Fourthly, to pick from among the similarly rising memory pictures, the one that is the most similar to the design; this is an associative process of many phases, not only the external

stimulus (must be attended to) but also the memory pictures rising from within, so as to effect a control over the process of perception, a criticism of the interpretation." But it must be remembered that a too high percentage of sharply defined form among normal people means a pronounced "nagger" or pedant who is determined to be absolutely unbiased and who has few W, sees mainly D and Dr, and does not venture on constructive or combinatory thought. Again, if F approaches 100%, and there is a tendency to Do, then we suspect depression or obsessional thinking. A good average is from 80-85 per cent; though, as we have mentioned, it may be even lower in normal adults of very superior intelligence, or artistic temperament.

F(c) and Ch Responses. The responses which are determined by chiaroscuro (F(c)) and those determined by stereognosis (Ch) were interpreted by Rorschach under the same heading of chiaroscuro (F(c)) and we will here follow his example, as more experimental work requires to be done before an interpretative distinction is established between them. The Chairoscuro responses imply "a cautiously adapted and consciously guarded affect"; the will for self-mastery is implied, with a fundamentally depressive disposition. Often these responses have important complex features hidden in the content in the form

of correctives and wishfulfilments. A subject who, for instance, interprets architectural landscapes, often feels himself inwardly decayed and impotent and he projects these feelings in the shape of wishfulfilments into the built, i.e. the streets, temples, archways that he has interpreted. Such subjects are often introverted and have already betrayed their feelings of inferiority in the form of white-space-detail responses. Further the stereognostic interpretations which have architectural pictures and are original or almost original answers, infer the existence of a strong capacity for perceiving space and constructive talent.

Colour Responses. "The primary colour responses (C) are the representation of impulsivity. The more C, the greater the tendency to impulsivity." ⁽¹⁾ They have to do with almost instinctive affectivity and have their roots in the most highly stressed affective psychism. The content of the colour responses has to be valued as would the manifest dream content as compared with the latent one, which can only be developed from the former by dream analysis.

Colour-form responses (CF) are "representatives of affective instability, excitability, sensitivity, suggestibility." They are related, therefore, to the primary colour responses and infer, also, egocentric, non-adaptive affectivity.

Form-colour (FC) are "representatives of that biological necessary fluid affectivity which sets up adaptability of the affective life, an affective rapprochement to one's environment."⁽¹⁾ They form a combination of intellectual and affective adaptability and are characteristic of healthy persons who are well adapted and capable of adaption.

Colour Shock. This is concerned with affect repressions of a neurotic nature and implies an inner connection between the perception of colour and the dynamics of affectivity. Colour shock is never found among psychotics.

Movement Responses. "M's are characteristic of those individuals whose activity is engaged more in the things of the spirit (auf geistigen Gebiete) whose interests gravitate rather towards the intrapsychic life than to the external world."⁽¹⁾ Further kinaesthetic responses show "the ability to create the new, the original; it is the capacity for creativity. In its highest development it is what we call artistic inspiration, religious experience, etc. Perceptions of motion must then be a sort of instrument for gauging inner creativity, of the power of introversion."⁽¹⁾

M responses are also important factors of intelligence. In Rorschach's table of norms for the various levels of intelligence, we find that individuals of very superior intelli-

gence give over five movement responses; these of average intelligence give two to four, while morons and imbeciles give no kinaesthetic responses at all. This is readily understood, for it is only those of some intellectual attainment who have a capacity for inner creativity; it is the exterior living of the mentally defective which is dominant and it is hardly their custom to live "auf geistigem Gebiet."

The kinaesthetic responses also show the unconscious expective adjustment (Erlebniserwartungseinstellung) of the subject, for they depict figures either bowed, kneeling or suppliant, which Rorschach called "Flector-kinaesthesia"; or else they are active, aggressive and upright figures which represent "extensor-kinaesthesia". The former indicates the masochistic, feminine, passively-adjusted individual who maintains a resigned air of patient sufferance; whereas, the latter represents the sadistic, actively-adjusted individual who is an aggressive, important person, though often possessing neurotic traits.

Finally, kinaesthetic responses may belong to the deepest unconscious; they are all-compelling: what is lived and how it is lived.
(5)

Type of Affective Adjustment (Erlebnistypus). We have seen that the kinaesthetic responses are an index of the tendency

towards interiority of psychic life; while the colour responses were an index to exteriority. Rorschach here follows Jung's concept of the "introverted" and "extroverted" personalities but the terms he uses differ from those of Jung in some respects.* Briefly, Rorschach uses the term "introverted" to denote that the individual is rigidly turned in on himself, while he speaks of the normal adult with a large excess of M responses as being "introversive", meaning that he has an abnormal capacity for interiority or living to himself. He thus expresses the fact that we are not dealing with a fixed quality but a mobile potency. So, also "extroverted" would signify a rigid excess of "extratensive" tendencies over the non-extratensive or "introversive"; an excess, in other words, of a tendency to turn to the outward world, rather than towards oneself. "..... the normal dynamics of human experience (Erleben) cannot be simply expressed by the terms "introverted" and "extroverted" but rather that they consist in a to-and-fro, (1) an oscillation between introversiveness and extratensiveness."

The kinaesthetic and colour responses are not, however, reciprocals of each other. Both may be absent; both may be present in equal proportions and in large and small quantities;

* cf. (1) pp. 72-75.

they may be present in unequal proportions or one may be absent altogether. It is the ratio of movement to colour which is of the greatest importance, for this relative proportion of the one to the other constitutes Rorschach's Erlebnistypus. "The number of the colour responses, taken absolutely, gives a measure of the fluidity of the affective life. Taken relatively, in its relation to the M. responses, it offers a measure of the affectivity which comes to expression - a measure of the stabilization of the affects."⁽¹⁾

When this tendency of the individual to balance his instinctive impulses by a certain amount of inner living is too great; when, indeed, there is an overwhelming preponderance of M over C, we are then dealing with a person who lives entirely in his own fantasy, who shows regressive and reactive tendencies towards the world. Similarly, when C greatly exceeds M, the individual may become altogether unrestrained in the outward manifestation of his egocentric impulses.

Constriction (Koartierung) or Dilation (Dilatierung) of the Erlebnistypus. If the M and C factors approach zero, Rorschach calls the type of affective experience constricted (koartiert); and dilated, accelerated or liberated (dilatiert), if a great capacity for extratension and introversion is demonstrated. Here we have two important types of personality. First, the

coartiert individual, who "had an abhorrence for fantasy and for all fluidity of affective self-expression, who sees good forms, in the experiment: who directs his entire life to form Where the tendency progresses to its maximum, you have a stunting, a crippling of the psyche; you have stereotyped living and mental incapacity First and foremost, the "coartiert" type is the logically disciplined, but he attains this status only after a far-reaching atrophy of both introversive and extratensive traits; one may say only with the immolation of capacity for richness of psychic experience."⁽¹⁾ Secondly, the dilated type who has "the ability to shun and escape the stereotyped ways of living" ... and "the ability to produce the new, the original, the capacity for inner creativity, that which, in its highest development, we call artistic inspiration, religious experience." For a further exposition of this concept, the reader is referred to Dr. S.J. Beck's article on Problem Children.⁽⁸⁾

Repression of Kinaesthetic and Colour Responses. We have already mentioned "colour shock" as an indication of affect repressions of a neurotic nature, but there are still other means of demonstrating this process. If the extratensive factors are repressed, the introversive factors are probably always repressed also. If the subject be unprejudiced and

has any tendency to give kinaesthetic responses, then we will find the first card easily interpreted as movement, and so be kinaesthetically aided and determined from the first or second response onwards. If, therefore, our subject does not interpret the first card kinaesthetically, and later gives a fair amount of movement responses, then we know that he is repressing kinaesthetic factors. We draw similar conclusions with regard to colour factors if the subject avoids interpreting the first coloured card. Where there is no trace of repression, the subject mingles his movement, colour and form responses; this seems to be one of the main characteristics of individuals who have no complexes. The supple oscillation, in other words, between introversiveness and extensiveness is disturbed by repression.

To sum up the interpretation of the type of affective experience, let us quote Rorschach again, ⁽¹⁾ "If we know (from the absolute number of the M responses) the strength of the introversive factors of the subject under experiment, the strength of his extratensive factors (from the number of C responses), the proportions of the introversive to the extratensive ones, and in how far introversive and extratensive factors are constricted or dilated (from the number of the M and C, together with a few other factors), then we know a

great deal about the subject. We do not know what he experiences (erlebt), but how he experiences it. We know a great many of the qualities and dispositions, both of an associative as well as of an affective and of a mixed nature, with which the subject stands in life. We do not know his experiences, (Erlebnisse), but his experience apparatus, with which he receives the experiences from within and without, and with which he subjects the experience to the first elaboration."

Content of Response and their Interpretation.

Animal Responses. In the design of each card, there are many easily interpreted animal forms. "An associational activity is therefore created, which is directed towards memory impressions of animal figures, and exercises a stereotyping influence on the interpretations. The percentage of animal responses becomes then an indicator of the tendency to produce stereotyped association.⁽¹⁾" We find a high percentage of animal responses (60 to 100%), therefore, among individuals of stereotyped and pedantic mind; while a low percentage (10 to 20%) is found usually in the imaginative, artistic type. The percentage of animal responses should vary inversely with mental age.

Anatomical Responses. These, in the case of non-medical persons, almost always point to an intelligence complex or to hypochondriacal brooding. (5)

Original Responses. These should exhibit a well-marked peculiarity, with an independence of glance which lies quite as much in the apperception as in the elaboration of responses; they should not be merely "talking shop" or "hair-splitting". "The possession of an optimum number of original responses is a component of intelligence. Yet this number must not be so high that, because of it, the individual loses entirely his capacity for adapting himself to his fellow-creatures." (1)
The normal is twenty to twenty-five per cent. A very low percentage (0 to 15%) is found in persons of a practical but pedantic nature, and, also, in depressive frames of mind. A higher percentage than normal is indicative of the artistic temperament on the one hand, or on the other hand, of the imbecile or deteriorated schizophrenic.

Popular Responses. These represent a participation in collective thought, the common method of sensing things. They are related to the D responses in that a decrease signifies a lessened sense of the obvious. Pfister, in his feeble-minded group, (3) reported that this response gave a very accurate measure of the patient's adaptability, judged by their useful-

ness, or lack of usefulness, as workers in the institution.

"Precision" Responses. The full meaning of these responses has not been elaborated. They are common among children. (6,7) Among adults, a precision response is thought to indicate that an uneasy type of affect is attached to the content of the response.

COMPARISON BETWEEN THE FORMAL PSYCHOGRAM AND THE CONTENTS.

Having dealt with the interpretation of the formal qualities, it now remains to make a comparison between the psychogram and the contents of the responses. To this end we use the schedule which is constantly recurring in Rorschach's book, and in which the responses of the patient are arranged as follows:-

The upper middle column contains the responses which are pure form answers (F), while below are the abstractions; the upper left column gives responses of F tending to M (responses that might be kinaesthetically determined) and the lower left column contains pure motor responses (M). The top righthand column is reserved for the chiaro-scuro responses, the form interpretations tending to colour, (F(c) + Ch); and immediately below are the colour form (CF) interpretations, while, below again, are the pure colour answers (C). Responses which are original or popular are so designated.

Applying this schedule to the case of schizophrenia simplex which we have already mentioned, we would have:

F tending to M.

None

F.

Dog's head

Animal's head

Animal

Animal with its eye
(precision)

Animal's head

Animal with its tail
(precision)

Butterfly

Man's head

Donkey's head.

There are whiskers so
that must be a lion.

Man's face.

Two squirrels.

Animal's head.

A bear.

A man.

Two animals.

ABSTRACT RESPONSES.It's a peculiar looking
picture.This one is not easy. I
don't see anything at all
(rejection).F tending to C.

It's all black to me.

FC.

None.

M.

None.

In the above grouping the middle column represents the conscious functions, the column on the left the introversive and the column on the right the extravertive ones. The ratio of M to CF and C allows us to draw certain self-evident conclusions with regard to the extent or vivacity of autistic trains of thought. The orderliness of the arrangement, of the succession, and the clarity with which the forms are seen leads to inference with regard to the counter weight, i.e. the extent and efficiency of discipline thinking. It will be seen further that the M and C factors stand closer to the unconscious, as conceived by psychoanalysis, than do the form responses; and, further, that the original answers betray more of the individual endeavours of the subject, and consequently what is psychoanalytically significant to him, than do the popular responses. (5)

Applying such theories to our case we would note that he is, first of all, rigidly charted, that there has been a strong impression both of kinaesthetic and colour responses, of introversive and extravertive factors, of the ability to live "auf geistigem Gebiete" and of the fluidity of his affective life. There is but one chiaroscuro response which would denote a certain

degree of a somewhat anxiously and cautiously guarded affect. Even the abstract responses, which form "the relations between kinaesthesia and colour, between the unconscious expective adjustment and the affect laden aims of the unconscious", ⁽⁵⁾ give us no clue to the patient's autistic train of thought. All the responses, save one, are form interpretations, which, we have seen, are the work of the conscious. Now, the stronger the repressing tendencies, the more unsubjective, the more objective and the more free from complexes are the form-responses. We have drawn, indeed, a complete blank in our search for complex and affect laden material in this patient. None the less, we have noted the "coartiert" type of affective reaction, the stereotyped responses, the high proportion of absurd small details, the absence of W responses, the tendency to a cautiously guarded, anxious effect and perhaps a tendency to depression, (from the amount of affect to Ad + Hd together with a high percentage of F⁺). From these factors one would formulate a diagnosis of schizophrenia simplex in an individual, who, perhaps, had never demonstrated even an average intellectual endowment; who now exhibited a stunting and crippling of the psyche, who had given way to stereotyped living and mental incapacity.

Such indeed, was our patient, as a brief outline of his history will show.

CASE I*: J.C., male, 29, clerk, white, admitted as a voluntary patient to Glasgow Royal Mental Hospital on 13th May, 1929.

Diagnosis - Schizophrenia Simplex.

Reason for Admission: For four years previous to admission he did no work. Physically, he seemed to lack energy and would sometimes lie in bed or sit inactive in a chair all day. He used to read; but for some time had seldom read even the daily newspapers, and, indeed, showed an inability to concentrate on any work at all. If sent a message, he became completely exhausted, physically and mentally; while at times he became so confused he could not dress himself. He seemed to live in his own world of imagination and sometimes laughed suddenly for no apparent reason. He was cheerful enough but did not show appropriate affective reactions. When told that he would have to go to a home for nervous cases in Great Western Road, he looked up and said absentmindedly, "That's Gartnavel, isn't it?" Gradually he became restless, sleepless and difficult to manage at

* I am indebted to Dr.D.K.Henderson, Physician Superintendent of the Glasgow Royal Mental Hospital, for permission to publish this case.

home, so that his mother was unable to look after him. He signed voluntary papers for admission to hospital willingly.

Family History: There is no history of nervous or mental disease in the family. Father died of bronchitis; mother is alive and well. One brother was killed during the War and the remaining brother is the sole wage-earner and support of the family.

Personal History: The patient was the youngest of a family of three. Birth was said to have been normal but the mother was "highly-strung" during pregnancy and labour. As a child he was dull, slow and lacked initiative, though he walked and talked at the usual age. At the age of five years he went to school but was backward, and made but a half-hearted attempt to play games. His manner was dull, but he showed no oddities of behaviour. At the age of fourteen he failed to pass the Qualifying Examination to enter High School. He left school and became an office-boy and clerk in an East India merchant's office, where he worked for five years. For the next two years he was unemployed, and then for the next two years was a ledger clerk in a warehouse; but, when his firm amalgamated with another, he was one of the first to be paid off. Since then he has not worked. Nothing is known of his sex life but he made no attempt to seek the society of girls.

The patient has been regarded as duller than the average

all his life. He did not mix well, owing to his shyness and seclusiveness. In his work he was slow and he lacked ambition to a marked degree; he has always been a follower. He was easily exhausted physically and mentally and his mood varied from average cheerfulness to excessive dullness. After leaving school he played no games and had no hobbies. He read little and was not interested in religion.

Condition on Admission to Hospital: On admission to hospital, he was found to be a strong, well-nourished adult of small stature and healthy, fair complexion. Nothing abnormal was found on physical examination. He was quiet and unresisting, coming to hospital willingly and going to bed without protest. He made no comment; asked for nothing and lay in bed with an expressionless face. He did not speak spontaneously, repeated questions or answered them in a slow, hesitating manner. His stream of talk was quite coherent and rational, however. Mood was apathetic with a marked falling-off in emotional tone. No delusions, misinterpretations or hallucinations were elicited and no special trends discovered. Orientation, memory and retention were correct and grasp of general information was quite fair. Judgment was poor and insight lacking.

Course of Illness in Hospital: The patient quickly settled down to hospital routine, making himself quite at home and working well in the Occupational Therapy department. Soon he

was given parole, but, after two months, was deprived of it, owing to interference with women patients and nurses. On being confined to the ward, he became very angry and violent towards an attendant, but this state did not last long. Since then, three years ago, no untoward event in behaviour has marred the placidity of his life. He is simple and facile; he declares himself perfectly contented and has no desire to go home.

SECTION III

RESULTS OF THE TEST

As reviewed, above, the significance of the results is apparent. The test results will be shown in the following table:

S.E.C.T.I.O.N. IV.

The Clinical Application of the Test.

Conclusions regarding its Clinical Application.

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S. E C T I O N IV.THE CLINICAL APPLICATION OF THE TEST.

We have reviewed, above, the administration, scoring and interpretation. There remains but to show in how far this test is useful to the clinician; for the purpose of this paper is to look at it always from the point of view of the everyday work of the psychiatrist. Therefore, it is best, perhaps, to review some cases in which it was of value to the writer.

Very often there is admitted to a mental hospital a case in which one cannot obtain an adequate anamnesis and where the patient is unable or unwilling to talk. Relations may not be available and friends may know little of the present illness and nothing of the patient's inmost life. If there is little untoward behaviour, save that the patient will not talk, and sits quietly by herself, adopting a passive attitude to hospital routine, one is faced with a difficult problem in making either a diagnosis or a prognosis. One may feel that there is much to be learned from the patient, could rapport be established; and one may feel that such rapport would undoubtedly be formed in time, but, for the moment, one must make a suitable disposal of the case. Would the Rorschach test be of any service?

*

CASE II. Such a case was admitted on September 22nd 1931, to the Boston Psychopathic Hospital - an unmarried, white woman of twenty-six years. From the admission sheet it was learned that she had had an illegitimate child five years previously, for which she had no sense of responsibility. The authorities of the hostel, at which she lived, and her employers reported that she had "long period of retardation, some paranoid tendencies, probable delusions of familiarity of men and many fears." It was also stated that she was vaguely depressed, although thoughts of suicide were denied. There were two previous admissions to hospital - the first from January 6th - 15th, 1926; and the second from January 30th - February 8th, 1926. An abstract of her first admission is as follows:

SUMMARY OF HISTORY OF PRESENT ILLNESS.

The patient's outstanding characteristics are her lack of emotion, entire selfishness and tendency to suspiciousness towards other people. These characteristics have become more marked since she became illegitimately pregnant four months ago. Displays no anticipation towards the future, and has no regrets for the disaster which has overtaken her. She appears out of

* I am indebted to Professor C. Macfie Campbell, Medical Director of the Boston Psychopathic Hospital, for permission to publish this and the following two cases.

touch with her surroundings to the extent that her answers to questions are often a vague "yes" or "no".

PHYSICAL EXAMINATION.

Negative except for six months' pregnancy.

SUMMARY OF MENTAL STATUS.

Patient is in clear contact with her surroundings. There is nothing abnormal in her stream of talk; her mood is neutral; no misinterpretations or delusions; no illusions or hallucinations; no compulsive phenomena; and no impairment of intellectual faculties or orientation. Judgment, however, is poor and she has very little insight into her condition. I.Q. 88: Mental age 14 2/12.

DIAGNOSTIC IMPRESSION.

Since there is no evidence of a definite psychosis, it would seem that the patient might be classed under the heading of "constitutional inferiority".

ABSTRACT OF SECOND ADMISSION.

After leaving the hospital on January 15th, 1926, the patient was taken to a religious institution where she acted in an unusual manner, refused to associate with the other girls, laughed for no reason at all, and had no idea what she was going to do with her child. She spoke of becoming a great designer and a great artist. Her conduct was so strange that

the other girls refused to associate with her and did not wish her to go into the nursery lest she should do harm to the children. For this reason it was thought that the patient should return to the hospital.

Mental examination reveals a young girl who is pleasant, co-operative, and extremely bland. She shows a mild lack of affect, is somewhat silly in her conduct in the ward, but gives no evidence of distorted thoughts or any ideas of peculiar influences. There is no evidence of any toxic condition at this time. Her peculiar lack of affect, tendency towards rambling and day-dreaming, and complete lack of insight suggest that we are dealing with a schizophrenic condition. On the other hand, we might be dealing with a special personality type.

PROVISIONAL DIAGNOSIS.

Without psychosis, Psychopathic Personality.

On her third admission, in September 1931, physical examination showed that she was a well-nourished woman of healthy appearance. Her attitude was that of quiet, contented preoccupation and for long periods she would sit by herself as if absorbed in a pleasant dream. When spoken to, she smiled pleasantly and answered simple questions with regard to her comfort and environment. Though she could not explain just

why she was in a psychopathic hospital, she showed no resentment at being admitted. When more complex questions were asked, however, her speech became hesitant and long periods, during which her face mirrored an almost comical, puzzled bewilderment, elapsed between question and answer. Such answers as she did make were quite inadequate and finally she would lapse into a bewildered silence. It was apparent that she wished to answer but could not formulate sufficient ideas to do so. When asked why she indulged in day-dreaming at her work, she replied, "I was wondering if one should masturbate." This startling answer was the only one which gave any clue to the content of her thought.

A few days passed during which no new light was thrown on the case. It was obvious that she was mentally ill, perhaps seriously so, but the problems of diagnosis and disposition remained. Without much hope of the outcome, the writer determined to do a Rorschach test and the following amazing record was obtained.

No. of card	No. of response	Response	69. Scoring.
I	1	A butterfly or a bat.	W.F+ A. P.
II	2	I don't know (long pause) It looks like two people clapping hands.	W. M+ H. P.
	3	It looks like a butterfly, this way. (card reversed)	W. F+ A.
III	4	Like two people warming their hands.	W. M+ H. P.
	5	That is just black it looks like a fire.	D. F(c) Fire.
	6.	(with great hesitancy) I have seen something like that before ... in pictures ... the sexual organs ... the female ones. I saw the same thing in coloured pictures at the hospital.	D. FC - Sex 0-
	7	These two look like the womb - I saw it at the - Hospital. That is the legs and buttocks of a person.	D, FC - Sex 0- Perseveration to Response (4) showing effect to Hd sex.
IV	8	It looks like two legs and something hanging down between them ... a man's organ.	dW. F+ Sex 0
V	9	A woman's sex organs.	D. Ft Sex 0±
	10	The entrance to a woman's organs.	Dsd. Ft± Sex 0±
VI	11	That looks like the back - the spine and the buttocks. That is a man's pelvis or something - his organs.	D. F+ Sex Precision.

No. of card	No. of response	Response	Scoring
	12	This is a man's ... just the end of his ... you know.	D. F+ Sex
	13	What's this? It looks like a fire. (laughs) It doesn't seem natural, but it means the same thing - passion.	Abstraction to passion.
	14	These are ... down below the stomach in a man ... his ... you know.	D. F+ Sex
VII	15	I don't know ... It looks like two women - those faces. They are looking at each other, they are showing each other their organs ... What about that? It reminds me of sexual intercourse: but how could they be doing that? Anyway they are coming in contact with each other. I have heard of that ... a little I did.	W. M+ H. Sex 0
VIII	16	Like two animals - like squirrels.	D. F+ A. P.
	17	Well ... it looks like the inside of a woman's body without the skin. It's the same colour: red, blue and orange.	D. CF+ An
	18	That red would be passion or something.	D. C. abstraction 0
IX	19	This looks like the inside of a person - a female I guess. This is up near the neck .. the chest .. this the stomach, and this the lungs.. perhaps it isn't. This is the pelvis .. the buttocks.	D. FC- An. Precision
X	20	It looks like this part (pointing to her own genitals) in a woman. That would be a man's..having intercourse with her .. I am getting nervous.	Dsd F- Sex 0-

TOTAL:- 20.

W.	5	F±	2	H.	3	O%	40
dW.	1	F +	7	Hd	0	P%	20
D.	12	F-	1	A.	3	F%	70
Dr.	1	C	1	Ad.	0	A%	15
Dsd	2	CF	1	Ls.	0		
Dch	-	FC.	3	At.	2		
Ds.	-	F(C)	2	Bo.	0		
Drs.	-	M	3	Nt.	0		
Do.	-			Wr.	0		
				Cl.	0		
				Ar.	0		
				Oj.	0		
				Fire.	2		
				Sex.	10		

FC	.....	CF	.....	C	.....	M	.....	W	.....	F+%	.....	A%	.....	O	.....	P
3		1		1		4		5		70		15		40		20

App:- W A Dsd

Succ:- Good - for the most part.

Erl:- 3 M: 5 C.

INTERPRETATION.

In this case it is perhaps best to note, first that there is no evidence of "colour shock": on the contrary, responses came more quickly and even more elaborately towards the end of the experiment where the cards are all in colour. It is certain then, that we are not dealing with a neurosis. Nor is there much evidence of a repressive process, except in the case of the kinaesthesia answers, for the first card is not interpreted kinaesthetically and no pure movement response is given after the first wholly coloured card (card viii). Movement responses might, therefore, have been higher and we will keep in mind that the introversive tendencies are somewhat checked by her affectively. Turning to the colour responses, we note first that the FC and F(c) predominate, but that there is one pure colour and one colour form response. From this we conclude that there are two contrary tendencies in the affectivity of our subject: a depressive fundamental disposition (Grundstimmung), mastered exteriorly and yet somewhat anxiously adapted and one which, on the whole, is violent, impulsive and ego-centric, but, none the less, subject to mastery.

Passing to the type of affective experience we note that this is neither dilated nor constricted and is, for the most part, ambiequal, with some tendency to extratension. But, if

we take into account the repression of the kinaesthetic factors, we may expect at times a perfect ambivalence or even a tendency to introversion. In this connection we note that there are two (10%) white space-detail responses, which would denote a spirit of opposition directed mainly against her own consciousness and, at present, against the outside world: while, at other times, it may be directed against her own most inner self.

We would expect, for the most part, fretting and doubt hesitancy and difficulty of decision: at present, we would look for some sign of defiance and aggression against the established order of things with perhaps obsessive acts and feelings; though, at other times, we should look for the appearance of inferiority, fantasies, and obsessional overcorrections to the extent of ascetic traits. We note, also, that both the responses had as their content "the entrance to a woman's sex organs" and call to mind her remark "I was wondering if one should masturbate." If we were to translate the interpretation into terms of autoerotic practices we would postulate the following:- The patient has probably indulged in autoerotic practices from early youth but has always had feelings of doubt and indecision as to whether it was morally wrong or physically harmful. At

present she is masturbating in an obsessional manner because of some external factor, as yet unknown. At times, in the past, she has had feelings of guilt and inferiority because of these practices and denied herself such an outlet for her instinctive drive to the point of asceticism. Later we shall see that such an interpretation was justified.

Let us examine, next, her intellectual capacity for adjustment. From the type of apperception we learn that she tends spasmodically to make for total apperceptions, to generalising trains of thought, at the expense of what is more easily grasped and essential. But, when we note the succession we are able to explain this over-high percentage of whole responses. It will be seen that, in the first four responses, there is a certain programmatic stiffness in that they are all W and that there is considerable hesitancy and lack of elaboration when compared with the succeeding answers. Further, three are popular, an indication that they are not so psychologically significant as the succeeding answers, many of which are not only original but individual. Lastly, it is only in the 6th answer that the content becomes sexual but, of the remaining answers, 93% are sexual. We now see that the first four answers were whole responses for the very specific reason that she wished to

avoid what was to her most easily grasped and essential - namely sexual details, which she found unpleasant or hesitated to mention. To this end she took refuge in generalisation when the particular was unpleasant; just as, in everyday life, we answer with a vague generalisation, a question to which we know the definite, obvious and yet unflattering answer. But, having once, as it were, exposed her unsocial train of thought, the patient embarked on an orgy of confession or liberation of suppressed or perhaps repressed material. For the remaining responses, the type of apperception and succession approximates more to the normal. Examining the W responses, themselves, more closely, we find further evidence of this process; for, whereas the first four W's are 75% popular, the remaining two are not only original but constructive. One must note, however, that she is inclined to model her conclusions on the detail (a sexual one) perceived at the commencement and that she is onesided almost to blindness in treating all things alike. Her intuition fails because of her obsessional preoccupation with sexual topics.

The F+ percentage is much higher than one would expect from a clinical estimate of the perseverance of attention and capacity for concentration. We must remember, however, that

during the experiment the patient's thoughts were concentrated on one topic, to her an all-absorbing one, and one doubts whether she would have produced as many F+ responses if her attention had been diverted from the sexual theme.

As to the patient's intellectual endowment, from the various appropriate factors in the calculation of the formal qualities, she would be classed under the heading of "low average intelligence."

Turning, finally, to the content of the answers we note that there are two anatomical responses. These we may take to indicate a morbid preoccupation with her own body and, also, according to Rorschach, to an intelligence complex. The latter is rather puzzling in the case of a woman who was a filing-clerk. People of such an occupation are not usually concerned with their intellectual endowment. It is possible, however, that her intense preoccupation with sexual matters may have made it difficult for her to concentrate on her work and her decreasing efficiency may have worried her. It is also possible that her inability to express herself properly may have been sufficiently patent to cause her to brood over it.

Arranging the responses according to Rorschach's schedule, they would appear as follows:-

F tending to M.	F	F tending to C.
<p>It looks like this part (pointing to her own genitals) in a woman. That would be a man's .. having intercourse with her.</p> <p><u>M.</u></p> <p>Two people clapping hands. P.</p> <p>Two people warming their hands. P.</p> <p>Two women looking at each other's organs. It reminds me of sexual intercourse. O.</p>	<p>P. Butterfly or bat. Butterfly.</p> <p>O. Two legs and something hanging between them - a man's organ.</p> <p>O. A woman's sex organs.</p> <p>O. The entrance to a woman's organs.</p> <p>The back, the spine and buttocks, etc.</p> <p>The end of a man's organ.</p> <p>These are below the stomach of a man.</p> <p>P. Two animals - like squirrels.</p> <p>The inside of a person - a female I guess. (with perseveration).</p>	<p>That is just black - it looks like a fire.</p> <p>It looks like a fire. It doesn't look natural but it means the same thing - passion.</p> <p><u>FC.</u></p> <p>O. The female sex organs. I saw the same thing in coloured pictures at the hospital.</p> <p>O. The womb. I saw it at the Talha Hospital.</p> <p>Like the inside of a woman's body without the skin. It's the same colour, red, blue and orange.</p> <p><u>C.</u></p> <p>O. That red would be passion or something.</p>

One notes, first of all, that the sexual content is evenly distributed throughout the three columns, which means that her preoccupation with this topic is not only conscious but unconscious, that it affects not only her introversive tendencies but also her emotional life. It is obvious that the patient is wholly conscious of her preoccupational fantasies with this affect laden material but the roots of it lie deep in her instinctive life and far beyond her ken. We might, therefore, postulate instinctive and unsatisfied cravings dating from early childhood.

Further symbolic reference to autoerotism is found in the kinaesthetic responses. The first M answer is "two people clapping hands" and the second "two people warming their hands". When a part of the body is mentioned in a kinaesthetic or colour response and reinterpreted soon afterwards in a similarly important response, it indicates that the patient attaches a certain amount of affect to such a part. In this instance, we have further evidence that the patient symbolically connects the affect-laden "hands" with sexual feelings; for, having given the whole response, "two people warming their hands", she turns to the source of the warmth and interprets it as a "fire". Later, (response 13) she interprets another detail as a "fire"

and adds "it doesn't seem natural to me but it means the same thing - passion." Now, where "hands", "fire" and "something unnatural", which means "passion", are all linked up in a patient's mind it must mean that they are psychologically important to her and it is not difficult to see that it is auto-erotic practices to which she refers.

Finally, comparing the results of the calculations with Rorschach's tables we would make a diagnosis of early "stereotyped" schizophrenia.

There are, doubtless, many other avenues of investigation which we might follow in this case but we have made sufficient interpretation for the purpose of this paper. Let us briefly recapitulate what the interpretation of the experimental records has told us.

An early psychosis - Rorschach's "stereotyped" schizophrenia. The affectivity exhibits two contradictory tendencies: a fundamentally depressive tendency, cautiously guarded exteriorly, and a violent, impulsive egocentric one. At present she is a prey to fretting and doubt, hesitancy and difficulty of decision and indulges in obsessive acts and feelings; while, at other times, she indulges in fantasies of inferiority and obsessional over-corrections. These thoughts

and feelings are connected with autoerotic practices over which she has always fretted and felt doubt. At present she is indulging in autoerotic practices in an obsessional manner but, at other times, has made over-correction in this direction to the point of ascetic continence. At the beginning of the test she showed a certain amount of programmatic stiffness of intellectual adaptation because she wished to avoid interpreting sexual details, but when she had once exposed her asocial train of thought the rigidity disappeared. Her intense preoccupation with sexual matters defeats her intuitive and constructive abilities. Her perseverance of attention and capacity for concentration are good, provided that her attention is not diverted from the sexual theme. Her intellectual endowment is that of low average intelligence. There is, however, evidence of an intelligence complex which may be explained on the grounds of her recent inability to concentrate on her work or on the grounds of her speech difficulty. She indulges in hypochondriacal brooding. Her preoccupation with sexual topics is not only a conscious but also a subconscious process and its roots lie deep in her instinctive life. One might postulate unsatisfied instinctive and cravings dating from early childhood.

The above findings are gleaned from the formal qualities and calculations of the experimental record alone and, by themselves, they give a revealing glimpse of the patient's mental status. But the test was of further value for it established sufficient rapport or transference to enable the patient to talk freely of her own thoughts and life. Whereas, at the beginning of the test, her answers were stilted and uttered in a painful, hesitant manner, at the end of the test she was able to talk fairly freely. On the following day, the writer again interviewed her, and, giving her the first card again in an attempt to establish her confidence, asked her what she saw. Without hesitation, she interpreted a detail as "a woman's sex organs seen from the outside" and an adjoining detail as "hands". With a slight hesitancy she said that the two details together reminded her of masturbation. Spontaneously, almost eagerly, she then gave the following outline of her sex history and its bearing on her present illness.

She could not remember her mother for she died when the patient was an infant, but of her father she had vivid memories for she was much attached to him. Her mother was replaced by a housekeeper, who, after a time, also usurped the affections of her father. One of the patient's earliest memories was of

her father chasing the housekeeper upstairs and finally following her into her bedroom. The child, curious as to the meaning of this behaviour, on one occasion, followed them to peep in at the door and to see them in the act of intercourse. Greatly excited sexually, the child retired to her bed and commenced, for the first time, to masturbate, fantasying the scene she had just witnessed. Thereafter she indulged in autoerotism frequently, always with the same scene in mind and with the half-formed wish that she should take the housekeeper's place. At this time she slept in her father's room and often she would see him naked when he was dressing or undressing. Such an occurrence would fill her with a strange, nameless dread, and yet she would always be excited sexually. Although her father was an undemonstrative parent and seldom favoured her with more than an absentminded caress, she longed for him to demonstrate a more passionate love for her. This feeling was strongest when she would hear him slip out of bed at night and go along to the housekeeper's room; and, sometimes, she would follow to make yet more vivid her first impressions. Such was her sexual education and such her introduction to autoerotism, which she indulged in freely throughout her childhood and adolescence.

Her first experience, at the age of twenty-one, of heterosexual intercourse was, to her, a casual affair, though it resulted in the birth of her illegitimate child. It was casual because she did not care much for the man and because she felt that he had forced her into something which gave her little pleasure and much trouble. When she was about a month pregnant and, as yet, unaware of it, she fell in love with quite a different type of man. He spoke to her of love as a spiritual thing and said that he wished to marry her. First he would have to make a position for himself which would enable him to give her a comfortable home, and, although he said this would take five years, he promised to return for her at the end of this time. With such protestations he departed and, though he left no address and never communicated with her, she believed implicitly in his promises.

She was troubled, however, with her former lapse from virtue and with its consequences and, after the birth of her child, wondered how she could avoid a similar occurrence. Her first affair had been unwitting, it is true, but she did not feel confident that she could withstand similar temptation. Suddenly, a simple solution of the problem occurred to her - she would stop masturbating. Did not, she argued, this prac-

tice stir her desires and would not its denial keep her in the path of virtue until her lover should return to claim her? Thus resolved, she denied herself all autoerotic satisfaction. But, when the five years had passed and no lover appeared, she became greatly troubled.

It did not seem to her that her lover was to blame; nor did it occur to her that she had been credulous. She felt simply that life was now a drab affair with neither savour nor zest: there was no lover to dream of and nothing to look forward to. It became difficult to concentrate on her work and soon she found difficulty in expressing herself. When asked a question she found it difficult to find words with which to answer and when she wished to speak spontaneously no words would come. This worried her considerably and she wondered whether there was anything wrong with her mind and whether she could do anything to relieve the cloying numbness which clouded her brain. And then she heard a voice saying to her, "Why don't you masturbate? It may clear your mind and bring back your speech." At first she struggled against this, but the voice persisted and, at length, she returned, with a sense of relief, to her former practices, fantasizing, as before, her father having intercourse with the housekeeper. As the

voice had assured her, her mind did feel clearer, her speech improved and she was able to carry on her work for some months. Then doubt assailed her. Was it right, she wondered, to indulge in autoerotism; did it not harm rather than help one? She did not, however, give up her erotic practices but continued to indulge in them four or even six times a day. Yet her speech became more difficult, her thoughts more bewildered, her doubts stronger and her work more difficult to accomplish. In such a state she was brought to hospital.

It remains but to add that subsequent observation and examination of this patient led to a diagnosis of schizophrenia.

It will be seen that, in this case at least, the Rorschach test was of considerable value not only in giving us surprisingly accurate indications of the dynamics of her illness, but also in establishing sufficient rapport for the diagnosis and prognosis to be made.

There are a considerable number of cases which are admitted to hospital on the verge of, or actually in, stupor. No matter how adequate the anamnesis may be, the psychiatrist will have difficulty in making a differential diagnosis between benign and malignant, depressive or katatonic stupor

and the prognosis is therefore doubtful. If the patient is able to respond at all, the Rorschach test will do much to indicate the seriousness or the benignness of the outcome.

CASE III. The patient was a woman, thirty years old, of good intelligence and education. For some six months previous to admission to the Boston Psychopathic Hospital she had fainting, dizzy or crying spells and had been overconscientious and worried about her work. Two weeks before admission she became confused, perplexed, restless and ill-at-ease. She complained of feeling lightheaded and of a sensation that she was disintegrating. Her conscience, she said, was driving her mad and she tried to convince her father that she had committed so great a crime that she was unworthy to live. She refused food and liquids and began to retain urine and faeces. Nursing became so difficult at home that she was brought to hospital.

On physical examination she was found to be a well-developed but emaciated and dehydrated woman. There was no trace of gross physical disease.

In the ward she was quiet and seclusive and she stood about or sat in rather a dazed and confused manner. She would neither eat nor drink and said that she lacked "the moral force" to do

so. Stream of talk showed retardation and blocking; while her mood showed poverty of affect with perplexity, feelings of inferiority and unworthiness. There were marked feelings of unreality, that the outside world was no longer the same, that her body no longer belonged properly to her. She felt that she had committed some great crime which ought to make people shrink from her. When questioned she said that perhaps there were voices saying that she should not associate with people, but she spoke as if it were the voice of conscience rather than a true hallucination. Orientation, memory and intellectual faculties were unimpaired, apart from a slowness of cerebration. Insight was well maintained, and judgment, though difficult to estimate, did not seem impaired.

The outstanding features in the case on admission were the psychomotor retardation, her perplexity, her poverty of affect, her feelings of unreality, unworthiness and guilt. These were considered characteristic of an affective rather than a more deeply seated, schizophrenic disorder. The prognosis was regarded as fairly hopeful.

Two days after admission she went into stupor with immobile features, mutism, stereotyped attitudes, partial flexibilitas cerea, wetting and soiling. In this state she re-

mained for almost six months. It was then noted that she was indulging in bursts of sudden, unexplained laughter, and that she smiled often to herself in a curious manner. She began to answer simple questions and seemed to take more interest in her environment. Still no idea of her content of thought or mood was obtained. At this stage it was decided that a Rorschach test might be of service, and the following record resulted.

No. of card.	No. of response	Response	Scoring.
I	1	A beetle - it looks funny.	W. F+ A.
	2	It's like a crab.	dW. F+ A.
II	3	That's part of the body.	W. F- At.
	4.	Now it's changing to red. This part was blue at first and now it's red. (long pause). There is nothing in the card at all now.	D. C. C.
	5	Now I see stars.	Dr. F- Stars
III	6	A butterfly.	D. F+ A.
	7	I see two stars.	Ds F- Stars
	8	That looks like a monkey.	D. F+ A.
IV	9	That looks like a bear. Now it's gone - the bear. I don't see anything.	W. F+ A.
V		I see a ... eh! ... I don't see anything now. I saw stars above but they have gone now. (pointing to a blank part of the card). It looks red here (pointing to a white part of the card).	Hallucination Affect to C.
VI	10	That is not nice. It reminds me of a dream in which I was shot. It seems as though it were lightning. I saw it there - but it's gone now.	D. F(c)- Dream O-

No. of card	No. of Response	Response	Scoring.
VII	11	I see claws. It's gone, whatever it was.	Dr F- Ad.
VIII	12	I see chain - chain lightning.	Dsd F- Lightning O-.
	13	I see a bear.	D. F+ A. P.
	14	An orange there.	D. CF. Fruit O.
IX	15	It looks like a map.	W. FC. Map.
	16	I see trees.	D F+ Bo-
X	17	A crab.	D F+ A.P.
	18	That looks like an electric current.	D F- electric- ity O-
	19	An overall	Dsd FC- clothes O-.
	20	A spider .	D F+ A.
	21	That's green - it looks like an insect.	Dr. F- A.

TOTAL: 21.

W.	4	F	8	H.	0	O%	25
dW.	1	F ⁺	8	Hd.	0	P%	10
D.	10	C.	1	A.	9	F%	50
Dr.	3	CF	1	Ad.	1	A%	43
Dsd.	2	FC	2	Ls	0		
Dch.	0	F(C)	1	At	1		
Ds.	1	M.	0	Bo.	1		
Drs.	0			Mt.	0		
Do.	0			Wr.	0		
				Cl.	0		
				Ar.	0		
				Og.	0		
				Stars	2		
				Electricity	1		
				Lightning	1		
				Dream	1		
				Clothes	1		
				Colour	1		
				Fruit	1		
				Map	1		

F% ... CF ... C ... M ... W ... F% ... A% ... O ... P.
 2 ... 1 ... 1 ... 0 ... 4 ... 50 ... 43 ... 25 ... 10

App: W.D. Dr. Succ: Variable. Type of Affective Experience.
 OM: 4C.

INTERPRETATION.

We note, first of all, that, during the experiment, the patient was actively hallucinated in the visual sphere.

While this is an important discovery it rather detracts from the value of the formal psychogram, since one cannot be sure whether the patient is reacting to a particular part of the design or whether she is merely describing her visual hallucinations. This is particularly true of the colour responses, since the patient, at times, describes colour in the background of the card or talks of details changing colour: e.g. response No.4. It might be argued, of course, that, no matter whether the responses were true apperceptions or not, they ought to give the same indication of the patient's personality. If we take the record and scoring as it stands, we might draw the following conclusions:

This patient is of the true extroverted type: she has lost the ability to stabilise her affects and has become unrestrained in the outward manifestation of her egocentric impulses. There is a well-marked negativism, at present directed towards the external world in the form of defiance and revolt, impulsive action and aggressive caprice; but, at other times, we might expect doubt regarding her own intellectual abilities and

efficiency, feelings of inferiority and unworthiness, overconscientiousness and even ascetic traits. Affectively she is unstable, with a degree of sensitivity and suggestibility; and, while she may show impulsivity and passion, she also exhibits a capability, though a strained and difficult one, of intellectual and affective adjustment.

At present, she shows a preoccupation with the bizarre and absurd and a reduced capacity for participating in common modes of thought: she has lost her capacity for adapting herself to her fellow creatures. She no longer has any interest in the world of reality and is preoccupied with the fantastic and unreal. This accounts, no doubt, for her lack of concentration, for her clouding of thought, loss of the critical faculty and for her lack of a commonsense method of adapting herself to the task in hand. There is a stunting, in other words, of the psyche and a tendency to stereotyped living and mental incapacity.

The diagnosis would be that of schizophrenia of a type midway between Rorschach's disordered catatonic and querulant hebephrenic types.

From the Rorschach test we learned that this patient was suffering not from a benign, depressive stupor but from a deep-seated catatonia. The change in her behaviour, the curious

smiling to herself and the returning interest in her environment might have led us to suspect that the illness was more serious than we thought on her admission. But we did not know that she was suffering from visual hallucinations, that she had lost the ability to stabilise her effects, that she was pre-occupied with the bizarre and absurd and had no longer any interest in the world or reality.

Subsequently the patient admitted that her outbursts of impulsive laughter were occasioned by visual and auditory hallucinations. She remained careless of her dress and personal appearance and showed no inclination to control her sphincters. Her appetite became unappeasable and she, who had formerly been a cultured and refined woman, descended to stealing food from the patients' trays. Insight was completely lacking and she appeared quite contented to remain in an environment from which she would have shrunk with horror, had she been well.

The etiology or dynamics of a case is often of the utmost importance. On this factor may depend not only the diagnosis and prognosis but also the mode of treatment to be adopted. Yet it is notoriously difficult, in many cases, to come to any conclusion. Any method which will make the issue more clear

will be of the utmost value. In the following case, the difficulty lay in deciding whether we were to treat the patient from the organic or the psychological point of view.

CASE IV. A girl, seventeen years of age, who had suffered for the past ten years from epileptoid seizures, as a result of which she was becoming increasingly depressed, seclusive and backward at school, was admitted to the Boston Psychopathic Hospital.

Birth was three weeks premature and instrumental; development was retarded and she was difficult to wean and feed. At three years of age, she began to have attacks of acidosis which continued for the next five years or so. The first "epileptiform" seizure occurred during an acidotic attack, accompanied by fever, and was described as a "convulsion" by the family doctor. At the age of five years she had middle-ear disease and three months later had another seizure. There was no loss of consciousness and the major symptom was a "twitching of the throat" which threatened to choke her. Attacks were at fairly long intervals until three years ago when they increased in frequency until she was having one every two or three weeks.

She was described as a shy, seclusive, diffident girl who had an intense dependence on her mother. Being a poor mixer she

had few friends and complained to her mother that she did not know how to behave or what to speak of in company. This made for self-consciousness and self-depreciation. Of her younger sister who was clever, good-looking and popular, she was very jealous, perhaps the more so because she, the patient, had been an only child for ten years. Physically she was not energetic and was interested in no outdoor sport with the exception of swimming. It was, indeed, difficult to stimulate and retain her interest in anything. Her mother had tried to interest her in reading but could find no branch of literature which she enjoyed. Her mood was variable with a tendency to depression, though, at times, she could pull herself together provided she had something sufficiently exciting to look forward to. She was most afraid of her attacks and they seemed to have had a large part in shaping her personality. She felt that her activities were very much limited by them and was always saying "If only I didn't take seizures I could do this and that, and then I would be quite contented." In her school work, general knowledge of life and behaviour she was about two years behind other girls of her age.

During the year previous to admission, her parents felt that there was a definite change for the worse in her personality.

She was much more depressed and easily upset, i.e. she cried at the slightest provocation. All her abnormal traits were exaggerated; she was more timid and diffident in company, more jealous of her sister and dependent on her mother; while, at school, her work was most unsatisfactory. The seizures had, if anything, become more severe and frequent, and she had complained greatly of headaches.

In hospital she was asocial and disinterested in the activities of the ward or of the occupational therapy department. She was unwilling to discuss her difficulties and cried much of the time, and whenever her mother was mentioned she had a fresh outburst of weeping. No special preoccupation or traits were observed.

A seizure was observed and was described thus:- "The seizure began with an aura during which she was aware that an attack was coming on and showed much agitation and fear. She cried loudly to the nurse, "Nurse, nurse! I am going to have a seizure. Come and hold my hand. I am so afraid. I want my mother." She then described tingling and numbness in the right hand, complained that it was going to sleep and held it tightly or asked to have it rubbed. There followed an interval of fifteen seconds or so during which she was quiet and then clonic

movements started in the right hand, which she raised to the right cheek, pulling and pinching it. The right side of the face twitched and the head was turned to the left. Her colour was pale, her pupils dilated and the right hand seemed colder than the left. The clonic spasm lasted approximately twenty seconds and the seizure passed off quickly. She then began to cry, complaining of headache. There was no loss of consciousness or sphincter-control; no biting of the tongue or frothing at the mouth. For some hours afterwards she was drowsy."

We were, therefore, faced with the problem of making a differential diagnosis between a functional or organic syndrome. Whether were the seizures due to a periodic physio-chemical maladjustment, to some structural damage of brain substance on the left side which served as a focus of irritation or, on the other hand, did the dynamics lie in the emotional or instinctive life of the patient?

The Rorschach test gave the following responses:

Card No	Response No	Response	Scoring
I	1	It's like something flying	W. F+ A.
II	2	Like somebody's body - their stomach cut right across and looked down on. (pointing to her pelvic region.	W.F. - at 0 - Affect to sex - Tendency to do.
III.	3	It looks like a different part of the body - cut through here (pointing to her breasts) This would be the back and these the two breasts.	Dsd. F - At 0 - Precision and affect to Sex - Tendency to do.
IV.		No response.	Rejection.
V.	4	I know what this is but I can't think right now. These look like dogs.	Dr F+ A.
VI.	5	Like some kind of animal - like a crab.	W. F+ A.
VII.	6	Like the inside of something - this part here.	Ds F - At 0 -
VIII	7	A cat.	D. F+ A.P.
	8	That looks like the inside of a cat's body split up and layed out.	D. CF. At.

100.

Card No	Response No	Response	Scoring.
IX	9	It's like a lobster - the inside of a lobster.	W. FC. A.O -
X	10 11	These are crabs. These are like snakes.	D.F+ A.P. D.F+ A.

TOTAL:- 11.

W.	4.	F+	6	H.	0	O%	36									
dW.	0.	F-	3	H.	0	P%	18									
D.	4.	C.	0	A.	7	F+%	66									
Dr.	1.	CF.	1	Ad.	0	A%	64									
Ds.	1.	FC.	1	LS.	0											
Dsd	1.	M.	0	At.	4											
Drsd	0	F(C)	0	Bo.	0											
Dch.	0			Mt.	0											
				Wr.	0											
				Cl.	0											
				Ar.	0											
				Oj.	0											
FC	CF	C	M	W	F+%	A%	O%	P%
1		1		0		0		4		66		64		36		18

App:- W. D. Ds. Succ:- loose. Erlebnistypus 1.5 C: OM-
 Colour Shock in cards II, VIII and IX.
 Tendency to Do precision and affect to sex.

INTERPRETATION.

From the formal qualities of the record we would draw the following conclusions: We are dealing, here, with a neurosis and, as the type of affective experience is extratensive but approaches ambivalence, hysterical symptoms will predominate, though, at times, obsessional phenoma may appear. There are affect repressions of a neurotic nature which are connected with a morbid preoccupation with her own body, a hypochondriacal brooding and morbid curiosity regarding the facts of procreation and birth. Affect is egocentric and labile and there is a distinct tendency to anxiety and depression with revolt against her present lot and a tendency to put the blame on things which she considers beyond her control; at the same time she is a prey to doubt, hesitancy and indecision with affective ambitendencies. Because of her affect repressions she is no longer able to balance her emotional life with a certain amount of inner living and, at times, she is unrestrained in the outward tendency of her egocentric impulses; she tends, in other words, to panic of a hypochondriacal nature. In these panics her hysterical symptoms will be best seen.

Her intellectual life is similarly crippled and her thought illogical, stereotyped and immature. She will never

be able to tackle a practical task in a thorough manner and will be prone to look to others for guidance. When faced with a task she will tend to overlook what is essential and to hand in favour of broad generalisations of a non-constructive type.

She has a marked intelligence complex and is fully aware of her intellectual immaturity and lack of efficiency.

In two respects only, the patient shows characteristics which are found, according to Rorschach, in epileptic records; that is, perseveration and high percentage of anatomical responses. On the other hand, there is lacking, the cardinal signs, as it were, of epilepsy. There is the marked presence of colour shock, the low percentage of C. responses, the coarted and extraverted erlebnistypus, the high percentage of animal and Ds responses, the absence of confabulation, the low total number of responses - all militate against a diagnosis of epilepsy.

The Rorschach test did not, in this case, immediately solve the difficulty of etiology and diagnosis. What it did tell us was that there existed a large functional element in the dynamics of the case no matter whether an organic basis was found or not. Exhaustive and specialised neurological and physio-chemical examinations and experiments were therefore carried out but they failed to show any organic basis to account for the seizures.

The Rorschach test did, however, give strong indications as to the line on which further psychological investigation and treatment should be carried out. According to the findings, therapy should be directed to liberating or dilating her type of affective experience which was found to be constricted or hemmed-in by neurotic repressions, depressive, anxious feelings, and intense hypochondriacal brooding. In this connection an effort should be made to let her understand her illness and have no fear for it; her sexual life should be investigated to make sure that she had no conflict arising from lack of knowledge or autoerotism; and her external interests and social life should be broadened. A spirit of independence and even aggression should be fostered to break down her overpowering dependence on her mother.

Treatment along these lines was found difficult but an improvement gradually took place; seizures became much less frequent and she gradually lost her anxiety and depression. In a progress note written two months after admission the following is recorded. "There have been no seizures for the past month. In her general conduct she has been showing much more aggression and independence, qualities which the staff have been trying to cultivate in order to counteract her dependence to her mother.

During the weekend she was on a visit to her home for twenty-four hours and her mother reports that she behaved in a calm, "grown-up" manner in meeting friends and acquaintances."

CONCLUSIONS REGARDING THE CLINICAL APPLICATION.

We have seen that the Rorschach test is of considerable value in three types of cases, i.e. the case where anamnesis is scanty or inadequate and where the patient is unwilling or unable to talk; where the patient is on the brink of or emerging from an unclassified stupor; and where there is doubt as to etiology and one does not know whether to treat the case on a functional or organic basis. Many similar problems, which confront the clinician in the course of his work and in which the test would be a valuable additional factor to the better known methods of examination, could be enumerated, but the scope of this paper does not permit of further elaboration of the topic. It would be of value, however, to make some more general statements about the type of case which, in the writer's opinion, is suitable for Rorschach testing.

Except for the accumulation of statistical material the test is of little value when applied to the chronic institutionalised patient. The administration of the test, in such a case, takes an hour or longer and the picture, clouded no doubt by stereotyped living and lack of mental activity, shows little but inarticulation and dementia. When mania or depression is marked the test is difficult to administer but the diagnostic picture is usually clear and telling glimpses of the dynamics

may be obtained. In the organic group it is again difficult to administer during the acute stages but is useful as a diagnostic aid.

The Psycho-neurotic group forms almost ideal material for the Rorschach test, no matter whether one proposes to direct treatment along psycho-analytical lines or not. Much is learned of the patient's conscious and unconscious processes which can be interpreted as the psychiatrist sees fit. A very clear picture of the patient's personality is obtained and treatment is thereby facilitated.

By no means every case admitted to hospital can be tested because of the time which requires to be spent in administration and formulation of the psychogram (roughly, five hours is spent on each case) unless the hospital has a full-time psychologist or psychiatrist who has no other duties. In its present form the test must, of necessity, be reserved for problem cases.

In the outpatient department, or in private practice, where the time for examining the case is limited, the test is of great value. It can be administered, in the average case, in about half an hour and the psychogram can be formulated at the psychiatrist's leisure. When the patient next visits the clinic or the psychiatrist's consulting room, the broad lines, at least, on which further investigation and treatment must be

carried out will be known. On the other hand, the psychiatrist may prefer to carry out his preliminary investigations and treatment on more orthodox lines and reserve the Rorschach test for such time as a deadlock may occur, through the patient running out of material or through the psychiatrist being unable to decide on which lines to proceed.

In Child Guidance work, as one can judge from the work of Beck, Loosli-Usteri, Löpfle, and others, the Rorschach test is found an admirable adjunct to diagnosis and index of the lines on which treatment should be carried out. In this work the patient is often too young to discuss his difficulties and one welcomes any test which is of value in probing the emotional life.

Though a sufficient knowledge of the test to be of clinical value is difficult to acquire and the complete examination of a patient may occupy the best part of a day, it is the writer's opinion that no mental hospital should be without some member of staff who has a working knowledge of it. Not only is this desirable from the point of view of diagnosis and treatment but the accumulation of actually obtained responses and detailed norms would proceed more rapidly. A quantitative basis would thus be established to settle many vexed questions; the test would become more simplified in form; and it would have a wider

range of application and interpretation. Finally, it is a test with far-reaching possibilities but conclusions drawn from it, at present, must be guarded and much painstaking work must still be done before it can be used with confidence. It is yet in an experimental stage and those who work with it must understand clearly that their efforts cannot be used, at present, with the same certainty with which one uses the findings of the Binet-Simon, Kuhlmann-Anderson or similar intelligence tests.

SECTION IV.

A Comparative Study between Normal and Problem Children.
October, 1931, Dr. Wood publishes a paper giving
of the test applied to problem children. This

SECTION V.

**A Comparative Study between Normal and Problem
Children by means of the Test.**

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S E C T I O N V.

A Comparative Study between Normal and Problem
Children. (34)

In October, 1931, Dr. Beck published a paper giving the results of the test applied to problem children. His findings are of particular interest and, if substantiated, would throw considerable light on the maladjustments of personality which occur in childhood. He administered the test to 37 problem children selected from cases referred to the behaviour clinic of the Jewish Board of Guardians of New York City. The children were Jewish, of middle to lower economic class, and all lived in the crowded districts of lower Manhattan, Bronx, and Brooklyn. Chronological age ranged from 8 years 2 months to 18 years 7 months, with a mean of 14 years; mental age ranged from 7 years 6 months to 17 years 1 month, with a mean of 12 years 10 months; the mean intelligence quotient was therefore just over 90. "The overtly manifested problems, for which the children were referred, cover practically the entire range one finds in the files of a behaviour clinic."

Examining the Erlebnistypus and coartation - dilatation phenomena of his 37 cases, Beck found:

- 13.5% Dilated - many M and C responses.
- 35.2% Coarted - few M and C responses.
- 18.9% Introversive - more M than C responses.
- 32.2% Extratensive - more C than M responses.

Examining the individual records, he found that the co-arted children failed to use the associational energy, the creative activity, high endowment and affect, the presence of which is indicated. The extratensive group show repression of creative fantasy-living, originality and associational energy, though affect and drive are present. The introversive group show signs of a tendency to affect without actual expression of it and even the dilated group show evidence of coartation, now of the extratensive, now of the introversive moments. Recapitulating, Beck states that problem children show "a tendency to rigid adherence to form, repression of either extratensive or introversive traits, repression of originality and associational energy, precision formulae, self-questionings and self-correction. All of which speak of a strenuous habitual self-regarding and this makes us suspect that the mechanism behind the coartation is a habitual anxiety process which is damaging a portion, if not the entire, of their psychic apparatus. The hypothesis suggests itself that the overt behaviour manifestations for which they were finally brought into the clinic are either directly the outbreaking resistances to their own hemming-in; or they are symptoms of the dissatisfactions incident to defeats of either ego or libidinal wants, defeats that are in turn consequent on the crippling of the

psychic apparatus." On the other hand, of the dilated child who has become a problem, Beck says that a child with too much mental energy for his school demands is not compelled to apply himself to learning, and thus misses the discipline of self and intellectual activities which follow from such application. He is thus less conditioned to self-control and will be less in the habit of submitting to social demands, and behaviour problems will result. He concludes that the "psychology behind the behaviour problem of the mentally energetic child would then be, not only the fact of unoccupied energy, but the fact that this excess of energy makes it unnecessary for him to master himself; and when he needs to, in the critical moments of life generally, he is not in the habit of so doing.

Beck had, however, no control group and relied on checking his findings against objective criteria totally outside the test. These criteria were the clinical findings. The objection can at once be raised that these clinical data may not have been obtained by the same observer. Even the terms used by clinicians vary; the same child might be called by one observer "nervous", by another "highly-strung", by another "emotionally unstable". Further, there is no method of determining to what extent or degree the child is affected. Two children may be classified as suffering from enuresis - the

one may be a child of 4 years who has had no adequate toilet education and in whom enuresis occurs infrequently, while the other may be 15 years of age and carefully educated under ideal conditions. In the one, enuresis may be cured by simple environmental adjustment but, in the other case, enuresis may be a symptom of masked epilepsy or of some deep-seated complex; yet clinical findings rank them equally as problem children.

It was, therefore, considered advisable to test a series of problem children and match them case by case, as far as possible, with normal children. The former were taken at random from the records of the Notre Dame Child Guidance Clinic, Glasgow, and the latter from the Notre Dame Montessori and Secondary Schools, Glasgow. Forty-four cases were tested in all; 22 normal and 22 problem children. The mean mental ages were respectively 10.23 and 10.24 years. The tests used were the Herring Oral Test, Burt Written Test, and Dreyer and Collins Performance Test; the average I.Q. being taken from these three. Both groups were drawn from the lower middle and middle social class; all were Roman Catholic in religion; with one exception, they were of Scots or Irish-Scots extraction; and the great majority were born and brought up in Glasgow. It was, of course, impossible to correlate home conditions and environmental influences.

The standard of 'normality' was difficult to fix, but certain criteria were laid down. The child should be neither too brilliant nor too dull in class work; neither too prominent in social life nor of the shy, seclusive type; neither too rebellious nor too easily dominated; there should be no observable complexes, odd behaviour or affective lability.

We may summarize the problem group as follows:

CASE I. Female: age 6.6 years: mental age 6 years: I.Q. 89.

Problem as referred: Fears, backwardness, food fads, enuresis

Physical: Family history of tuberculosis. Under-nourished and delicate.

Personality: Egocentric, overdependant, temper tantrums, hypochondriacal.

Environment: Mother died when patient was an infant. Since then she had had frequent changes of environment. Now lives with maternal grand-aunt and -uncle. Maternal grand-aunt is superstitious and of low intelligence; she fears that patient is developing tuberculosis and over-protects her. There is no one who has any control over patient and she takes advantage of this. Also constant friction between grand-uncle and -aunt.

CASE II. Male: age 5.8 years: mental age 6.3 years: I.Q. 109.

Problem as referred: Temper tantrums; destructibility; unmanageableness at home and at school.

Physical: Negative.

Personality: Negativism; emotional instability; aggres-

sion; fantasies of fighting, killing and death; feelings of rejection by mother.

Environment: Parents incompatible. Mother hypochondriacal and emotionally unstable. Father overdependent on mother and jealous of children. Patient rejected by parents.

CASE III. Female: age 6.5 years: mental age 6.6 years: I.Q.101.

Problem as referred: Unmanageable; aggressive; sadistic; emotionally uncontrolled; overdeveloped fantasy life.

Physical: Family history of tuberculosis. Hilum adenitis. Poor co-ordination and stiff gait.

Personality: Hypochondriasis, phobias and anxiety states; hatred of mother; egocentricity; conflict between ego and ego-ideal.

Environment: Mother hypochondriacal, superstitious and emotionally unsatisfied, and is cruel to patient. Father inadequate. Entire lack of discipline in home.

CASE IV. Male: age 6.5 years: mental age 6.8 years: I.Q.105.

Problem as referred: Exhibitionistic; wandering; unmanageable; destructive; sadistic; bad toilet habits.

Physical: Hypothyroidic constitution; pallagra.

Personality: Cyclothymic tendency; negativistic; feeling of rejection.

Environment: Broken home; mother divorced. Mutual antagonism between patient and stepmother. Inadequate father. Overcrowding. Financial stress. Interference of grandmother. Senile sex perversion of grandfather.

CASE V. Male: age 6.9 years: mental age 7.5 years: I.Q.108.

Problem as referred: Stealing; untruthfulness; lethargy.

Physical: Post-encephalitis.

Personality: Poverty of affect; variability of motor activity; lack of moral insight.

Environment: Illegitimate child. Mother overworked and emotionally unstable.

CASE VI. Male: age 7.6 years: mental age 7.7 years: I.Q.101.

Problem as referred: Backwardness in arithmetic. Food fads; temper tantrums.

Physical: Hyperthyroidic; muscular inco-ordination.

Personality: Emotionally unstable. Hypochondriacal. Compensatory self-assertion.

Environment: Overprotection and hypochondriasis of mother and father. Overambitious parents.

CASE VII. Male: age 7.4 years: mental age 8.3 years: I.Q.108.

Problem as referred: Backwardness; religious guilt feelings.

Physical: Continual ill-health.

Personality: Feelings of inferiority and guilt.

Environment: Overprotection by hypochondriacal relations. Mother dead (tuberculosis). Rejected by father.

CASE VIII. Female: age 11 years: mental age 8.4 years: I.Q. 77.

Problem as referred: Temper tantrums; backwardness.

Physical: Strabismus in both eyes. Undernourished.

- Personality: Labile affects; apprehension; phobias; panics. Governed by fear of father.
- Environment: Sadistic father; inadequate mother; low intelligence of parents. Financial stress; overcrowding.
- CASE IX. Male: age 7.5 years: mental age 8.5 years: I.Q. 116.
- Problem as referred: Destructiveness; temper tantrums; unmanageableness; stealing.
- Physical: Negative.
- Personality: Overaggression; superiority complex; discontent with environment; negativism.
- Environment: Emotional instability of parents. Lack of normal discipline.
- CASE X. Male: age 12.1 years: mental age 8.7 years: I.Q. 81.
- Problem as referred: Speech defect.
- Physical: Negative.
- Personality: Dull; apathetic; feelings of inferiority.
- Environment: Financial stress.
- CASE XI. Male: age 11.9 years: mental age 9.2 years: I.Q. 77.
- Problem as referred: Phantastic lying; stealing; backwardness; day-dreaming; bad toilet habits.
- Physical: Negative.
- Personality: Inferiority feelings and compensatory behaviour; solitariness; feelings of rejection.
- Environment: Financial stress; clash of culture; excessive discipline.

CASE XII. Female: age 12.25 years: mental age 9.6 years: I.Q.89.

Problem as referred: Speech defect; enuresis; seclusiveness.

Physical: Wasserman reaction double plus. Hyperthyroidic constitution.

Personality: Emotionally unstable.

Environment: Mother stutters and is a chronic invalid. Asociability of family.

CASE XIII. Male: age 11.5 years: mental age 9.8 years. I.Q.83.

Problem as referred: Bullying; court charges of house-breaking and incendiarism; backwardness.

Physical: Negative.

Personality: Depressiveness; insecurity; inferiority.

Environment: Illegitimate; senile grandmother; lack of discipline and supervision; financial stress.

CASE XIV. Male: age 12.25 years: mental age 11.7 years: I.Q.96.

Problem as referred: Speech defect; temper tantrums.

Physical: General bodily condition poor.

Personality: Emotional instability; sensitiveness; depression; inferiority feeling.

Environment: Financial stress. Low mentality of parents. Mother's ill-health. Ill-health of younger brother, on whom attention was centred, with rejection of patient.

CASE XV. Female: age 14.4 years: mental age 12.4 years: I.Q.95.

Problem as referred: Backwardness.

Physical: Negative.

Personality: Inhibition; seclusiveness; insecurity.

Environment: Insecurity in home. Over-ambitious parents. Only child.

CASE XVI. Male: age 11.5 years: mental age 11 years: I.Q.97.

Problem as referred: Stealing; backwardness; temper tantrums.

Physical: Negative.

Personality: Desire for power; feeling of rejection by mother. Father fixation.

Environment: Broken home; constant friction; moral laxity; mother seeking separation from father.

CASE XVII. Female: age 13.9 years: mental age 12.6 years: I.Q.98.

Problem as referred: Stammering; food fads.

Physical: Negative.

Personality: Emotionally unstable; over-protected.

Environment: Overprotected by family. Physical ill-health of mother. Financial stress.

CASE XVIII. Male: age 12.1 years: mental age 12.6 years: I.Q.104.

Problem as referred: Fears; backwardness in arithmetic; bullying.

Physical: Strabismus.

Personality: Mother identification: feeling of inferiority; phobias; oedipus complex.

Environment: Broken home; father's desertion after constant friction; moral laxity; financial stress; mother's agitated depression.

CASE XIX. Female: age 12.9 years: mental age 13 years: I.Q.102.

Problem as referred: Stammering; nocturnal enuresis.

Physical: Negative.

Personality: Depressiveness; mother fixation; sensitivity; labile affect.

Environment: Constant friction in home; incompatibility of parents; hypochondriacal parents; religious inconsistency.

CASE XX. Female: age 12 years: mental age 13.3 years: I.Q.

Problem as referred: Stammering; enuresis.

Physical: Negative.

Personality: Introverted; imaginative. Stammer is conversive symptom.

Environment: Financial stress. Cruelty of teacher.

CASE XXI. Male: age 12.6 years: mental age 15.6 years: I.Q.124.

Problem as referred: Backwardness; enuresis.

Physical: Negative.

Personality: Shy, shut-in; seclusive.

Environment: Incompatibility of parents. Mother's emotional instability and ill-health; father's over-dependence. Ridicule of patient's intelligence by parents.

CASE XXII. Female: age 15.5 years: mental age 16.9 years: I.Q.109.

Problem as referred: Claustrophobia; ideas of unreality; dizziness; headaches; depressiveness; solitariness; obsessional phenomena.

Physical: History of hysteria for three years. Family history of tuberculosis.

Personality: Mother fixation; conversion hysteria.

Environment: Broken home; over-protection by mother.

THE PRESENT INVESTIGATION.

To understand the object of the present investigation, it is necessary to remember that Rorschach claimed that his test gave an indication to the non-intellectual factors as well as the intellectual factors of personality, and further, that it indicated what these other elements will permit, or more often compel, the individual to do with his intellectual equipment. In children suffering from behaviour problems, it is assumed that the non-intellectual factors of personality are disturbed and that, in consequence, their intellectual faculties will not be permitted to function to their full capacity. And, when we question in what manner this hemming-in of intellectual power takes place, we might postulate that there is a lack of facility of associational synthesis, a repression of creative phantasy formation, a poverty of affective drive, a loss of originality of thought and a narrowing of interest; for such are the factors affected when anxiety, or a like emotional disturbance, preys upon the mind. Yet, an intelligence test, like the Herring Revision of the Binet-Simon or Burt, would not be

expected to show, to the same extent as the Rorschach, that the intellectual factors of personality had been affected by an emotional state. We would expect, therefore, that the problem children would test low with the Rorschach and rather higher with the Herring and Burt .

Given, then, a group of problem children and a group of normal children who have the same mean mental age when tested by the Herring and Burt, one would expect to find, by means of the Rorschach, evidence not only of emotional or instinctive disturbances, but also signs that such disturbances had affected the intellectual functioning of the problem group, and that the normal group would form a contrast with their free creative fantasy, wide ranging associational synthesis, originality of thought and unhampered affective drives.

THE RESULTS.

Before examining the records obtained from the administration of the Rorschach test, let us examine the mental ages of our two groups more closely to ascertain whether we are justified in making correlations or comparisons between them. The mental ages of both groups were obtained by examining each group by means of the Herring, Burt and Drever and calculating the mean mental age from the figures obtained. The mean mental age of the whole normal group was found to be 10.19 years;

the standard deviation was 1.6 (for statistics, see appendix), and the probable error of the mean, 0.229. The changes were 50 : 1 that the mean would not be greater than 10.946 years or less than 9.434 years. While for the problem group, the mean was 10.15 years; standard deviation, .219; probable error .445; and the chances 50 : 1 that the mean would ^{not} be greater than 11.64 years or less than 8.66 years.

It will be noted that the normal group is much more evenly distributed and homogeneous than the problem group. Further, the range of the normal group (7.2 - 14.5 years) was more limited than the problem group (6 - 16.9 years). This must be remembered when we consider the correlation of the test factors with mental age, for we would expect a more marked correlation in the less homogeneous, more widely distributed groups.

EXAMINATION OF TEST FACTORS.

We find in Psychodiagnostik (p.52), the quantitative variation of certain personality components at different mental levels:

Table I.

124.

Intelligence Level	W	M	C	F+ %	A%	O%
Very superior	10 or more	over 5	4-7	90-100	10-20	30-50
Superior	7-10	5 or more	1.5-3.5	80-100	20-35	20-30
Average	4-7	2-4	0.5-2.5	70-80	30-55	0-20
Low average	3-4	0-2	1.5-6.0	60-70	50-70	0-20
Morons	1-3	0	4-7	45-60	60-80	30-40
Imbeciles	0-2	0	5.5-8.5	0-45	80-100	40-70

It follows that there is a positive or negative correlation between mental age and the factors W, M, F and A, and a correlation equal to .000 between mental age and factors C and O%. Applying this principle to our two groups of children, we find:

DIAGRAM I

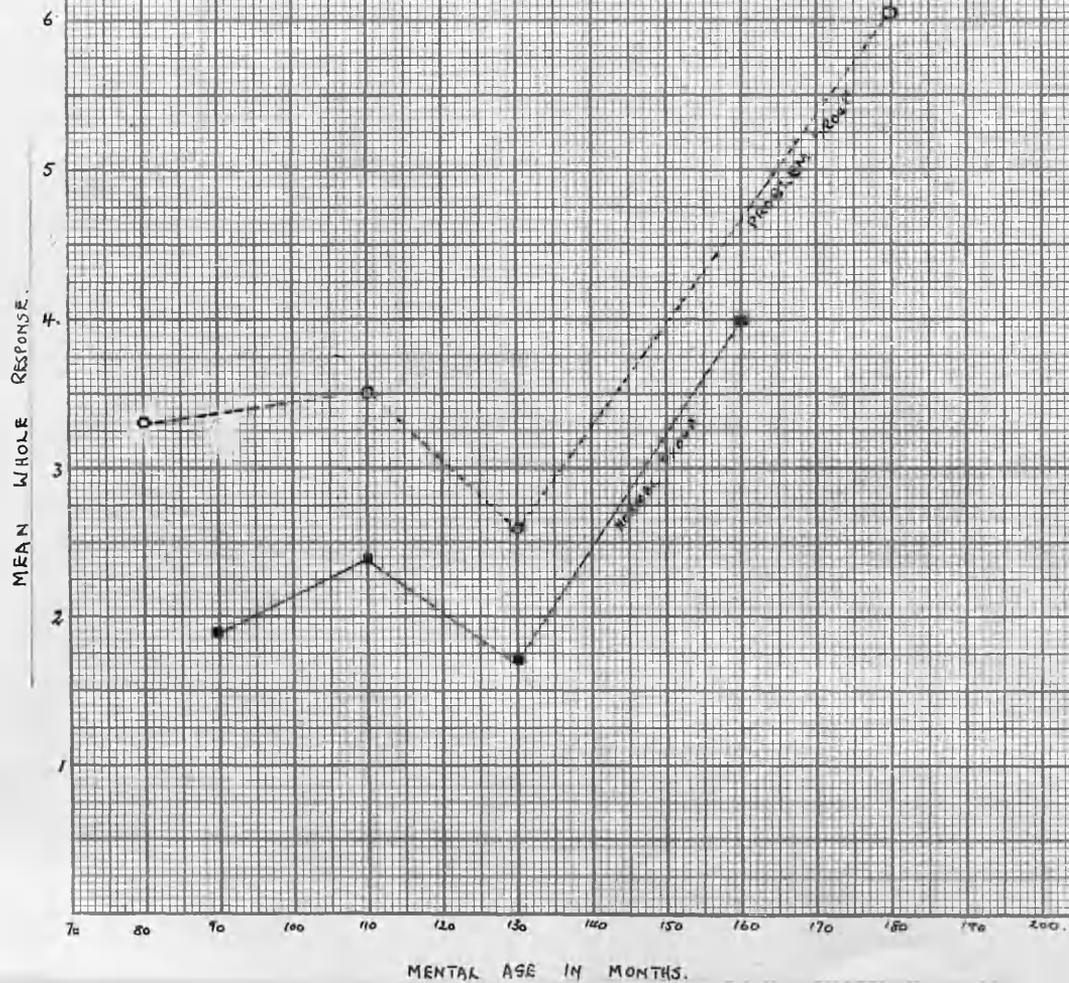


Table II.

NORMAL CHILDREN						
Mean Responses at Quartile Distances.						
Mental age in Months.	W	F %	A %	O %	M	C
72-96	1.9	59.0	23.3	20.6	2.6	5.5
97-120	2.4	71.4	33.1	14.7	2.1	2.8
121-144	1.7	61.6	27.5	18.9	2.5	5.8
145-180	3.0	52.5	14.0	33.0	4.0	5.0
PROBLEM CHILDREN						
72-96	3.33	55.2	50.1	36.6	1.83	6.16
97-120	3.5	61.9	47.8	23.6	1.0	2.2
121-156	2.66	60.8	40.8	14.9	.66	2.6
157-201	6.16	65.3	30.8	25.6	3.3	2.3

Examining the individual factors separately, we have -
Whole Responses (W).

(DIAGRAM I facing this page)

We have seen in Table I that Rorschach considers that the number of whole responses should vary directly with mental age; that, in short, there should be a positive correlation. He states further in his book that "the number of W responses is, above all, an indication of the amount of energy directed towards associational activity A large number of primary W responses is produced by individuals of philosophic bent" (p.63).
 (4) Beck reports a correlation of $+ .474 \pm .06$, between mental ^{age} and W in mental defectives; while Pfister gives the following averages: idiots, 2.3: imbeciles, 2.7: morons, 4.1.

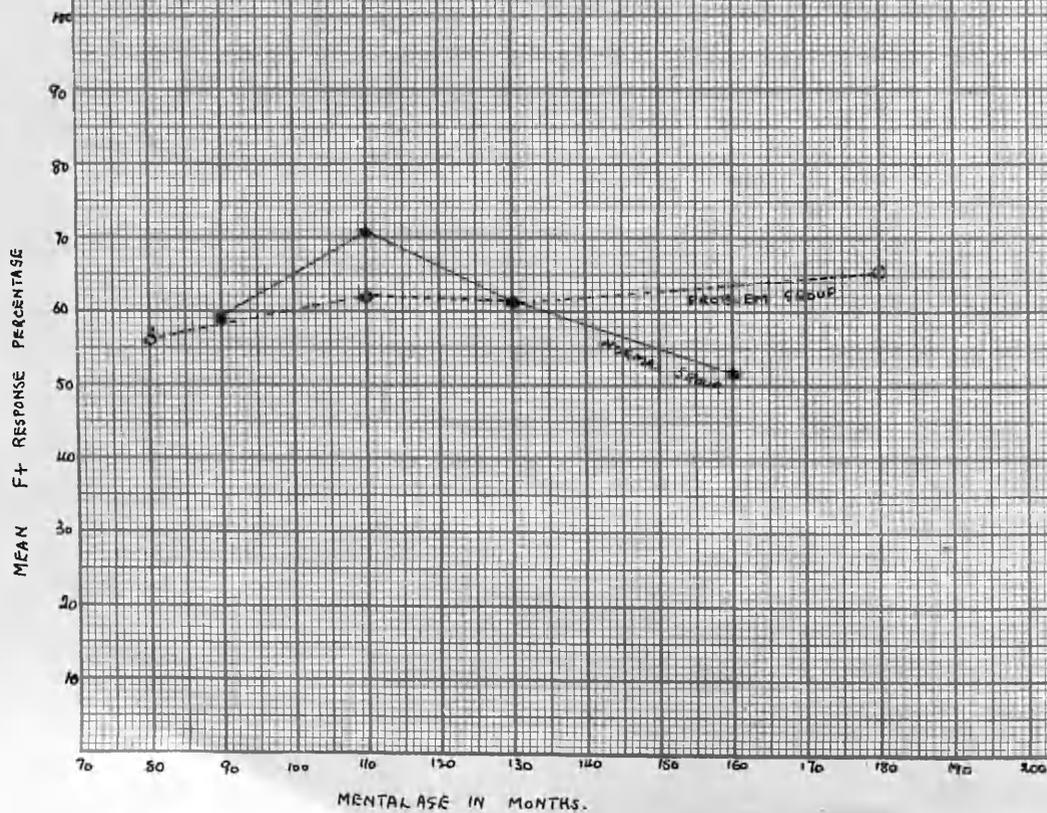
In the present investigation, the following results were obtained:

Table III

	MEAN	COEFFICIENT OF CO-ORDINATION BETWEEN MENTAL AGE AND W.
Normal Group	$2.0 \pm .351$	$-.09 \pm .101$
Problem Group	$3.3 \pm .142$	$+.26 \pm .093$
Differences	1.3 ± 1.22	$.35 \pm .136$

The difference between the means is 1.3, with probable error $m_1 - m_2 = 1.22$, which is statistically unreliable. On the other hand, the difference between the coefficient of correlation is 3.5, probable error $r_1 - r_2 = .136$, showing that $r_1 - r_2$ lies within the limits of statistical reliability. Thus, despite the

DIAGRAM II



fact that Diagram I shows an upward drift, we cannot say that there is any correlation between mental age and whole responses. If anything, the problem children have a tendency to give more whole responses than the normal children and there is a more significant relationship between mental age and W in their case. This may be accounted for by the fact that the problem children, being conscious of their poor performance in scholastic attainment and formal intelligence tests, are anxious to "make a showing" in a test which appears easy. It may mean also that they have a tendency to over-generalizing trains of thought. Examination of the individual records shows this to be the case, for many of the problem children are unable to make anything of the first few cards except vague and often poor generalisations; they are blind to many of the essential factors and overlook that which is most easily grasped.

Form Responses F+%. (DIAGRAM II facing this page).

Rorschach states that a high percentage of sharply perceived form pre-supposes (a) a capacity for concentration; (b) the possession of clearly formed engrammes; (c) the capacity for bringing these engrammes into consciousness; and (d) the ability to choose from simultaneously rising memory pictures the one which is most like the design. Sharpness of form perceptions is therefore a component of intelligence and Table I

shows that F+% will have a positive coefficient of correlation with mental age. Pfister reports for idiots 30%: imbeciles 38%: and morons 48%: while Beck shows a coefficient of correlation of $+0.64 \pm 0.051$ between F+% and mental age for his whole group. Our results are as follows:

Table IV.

	MEAN	COEFFICIENT OF CORRELATION BETWEEN MENTAL AGE AND F+%
Normal Group	64.0 1.82	$-.18 \pm .098$
Problem Group	61.3 .266	$+.26 \pm .093$
Differences	2.7 ± 1.8	$.44 \pm .13$

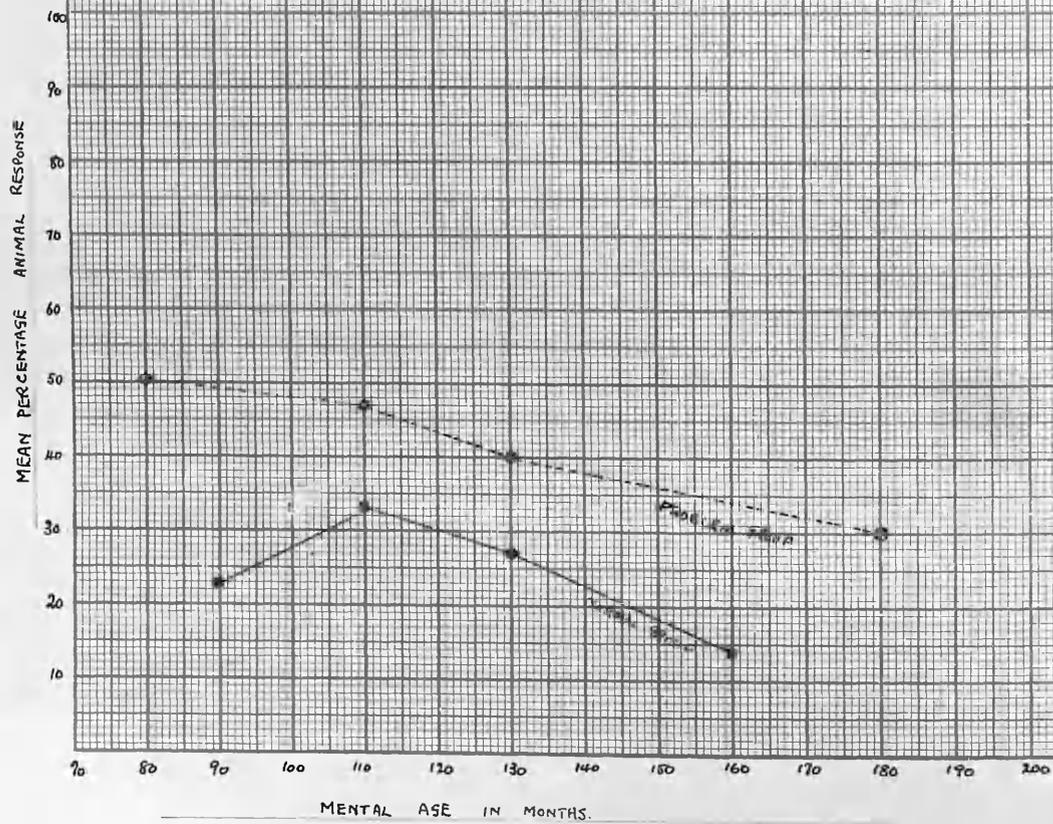
The difference between the means is, therefore, statistically unreliable, but the difference between the coefficient of correlation is a reliable one in the direction that the F+% of the problem group tends to vary more directly with mental age than the F+% of the normal group.

The results for this factor are in many ways different from what we should expect, especially in the case of the normal group. We should have expected a higher F+% and a definite positive correlation to mental age. The explanation probably lies in the method of scoring. It will be remembered that Rorschach defined an F+ response as "a response given with very great frequency by a large group of healthy individuals;" but detailed

norms for children do not appear to any extent in the literature. Mlle. Loosli-Usteri gives a list of responses with their scoring, but this was found insufficient for the present investigation. The quality of each new response given by the normal group was therefore noted, and if such a response was found to occur with great frequency it was scored as F+, if not, it was scored F-. . . But many responses, which have all the appearances of clearly perceived form, when judged subjectively by the examiner, were found to occur only one or twice and could not be scored F+. It should be noted, however, that only some 1,480 responses were obtained from the two groups, which is too small a number on which to base the scoring of a test factor. Further, when the number of responses mentioned is considered, the chances, by random sampling, of the quality of any one response being F+ or any other quality, are 10,360 - 1; so that it is somewhat surprising that the F+% should be so high when it is scored by this method.

Until, therefore, a more reliable norm and basis for the scoring of F+% is obtained, no conclusion can be drawn from the results. Indeed, the writer's experience with this factor has been such that he is coming to the conclusion, that Rorschach's method of scoring form responses is too difficult

DIAGRAM IV



of application. A simplified form of scoring would not necessarily deprive the interpretation of the record of much valuable information, and it would make the test much more easily learned and applied in the clinical field. Much more investigation of the test as a whole however, must be done before any change can be suggested.

Animal Responses - A% (DIAGRAM III facing this page.)

Rorschach points out that the animal configurations are the ones which present themselves with the greatest ease and are therefore the most convenient form interpretation. Early in the test, associational activity is directed to memory impressions of animals and creates a stereotyping influence on interpretation. Thus the percentage of animal responses should vary inversely with mental age. For Pfister's three groups, the mean is 61 in idiots: 65 in imbeciles: and 58 in morons. Beck found the coefficient of correlation to be $+ .156 \pm .079$ between A% and the mental age. His results were not in conformity with those of Rorschach, but he suggests that the discrepancy was caused by the fluctuation of self-criticism at various levels of mental development. This interpretation of the finding was suggested by the remark of Kirkpatrick that younger children are more suggestible, and therefore more amenable to association: the intermediates are more critical, reducing the productivity;

while older children had sufficient broadening of experience to liberalise their associational processes and so result in more association. If this theory were correct, there ought to be a negative relationship between A responses and the total number of responses, and Beck⁽⁴⁾ found that $r_{AR} = .412 \pm .067$. A further relationship should exist between A responses and the number of originals "for the critical activity which inhibits deviation from the obvious should operate to reduce the number of originals as it would also reduce the total productivity.⁽⁴⁾ He found $r_{AO} = -.189 \pm .077$.

Turning to our own results, it will be seen (from diag.III) that there is a definite downward trend with increasing mental age, which appears in the diagram to be more marked in the case of problem children. Statistical analysis of the results, moreover, shows that the coefficient of correlation between mental age and A in normal children is $-.5 \pm .073$, which has a high statistical reliability; whereas in problem children the coefficient is $-.01 \pm .100$, which is statistically unreliable. The difference between the coefficients of correlation is .51 and the probable error $r_1 - r_2 = .124$, and as this is statistically reliable, we may conclude that there is a greater negative relationship between A% and mental age in normal children than in

problem children. This is further borne out when we test the correlation between A and R on the one hand and A and O on the other. In the normal group, $r_{AR} = -.53 \pm .115$, a result which has high statistical reliability, while in the problem group $r_{AR} = -.17 \pm .14$, which is statistically unreliable. Similarly for the normal group $r_{AO} = -.29 \pm .132$, and in the problem group, $r_{AO} = -.05 \pm .05$. We may summarise these results as follows:-

Table V.

	MEAN	COEFFICIENT OF CORRELATION BETWEEN MENTAL AGE AND A%.
Normal Group	29 ± 2.08	$-.5 \pm .073$
Problem Group	36.6 ± 2.16	$-.01 \pm .100$
Differences	7.6 ± 3.0	$.51 \pm .124$

With regard to A%, therefore, our results conform with these of Rorschach more closely than Beck's results. We may interpret them to mean that the problem children are more stereotyped and pedantic, less imaginative and original than the normal children. Further it would seem that some constricting factor is operating upon the associational activity of the problem children which is absent in the case of the normal children. And since the mean

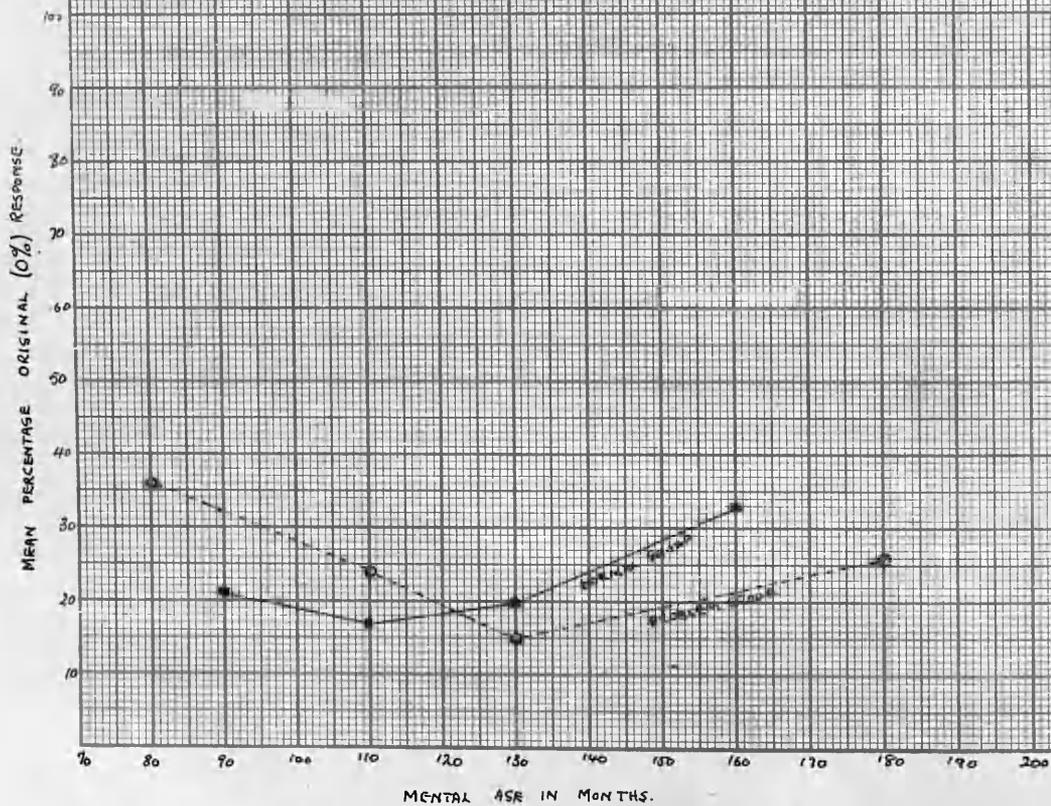
mental ages are the same, we may assume that such a factor must be looked for among the non-intellectual factors of personality.

Original Responses - 0%. (DIAGRAM IV facing this page).

A further factor of intelligence is the possession of an optimum high number of impressions which are original. Nevertheless, this number must not be so high that the individual loses his capacity for adapting himself to his fellows. From Table I, it will be seen that the percentage is high among these of superior intelligence, drops among those of low average or low intelligence, and rises again among the mentally defective group. Rorschach adds another complication when he says that the original given by those of high intelligence are "good" (0+), that is, they show a mind which has clear impressions sharply perceived forms and an optimum variability in functioning: whereas the originals given by those of low intelligence are poor (0-), that is, they are absurd responses that deviate so far from the average as to be original. Following Beck's example no distinction will be made between 0+ and 0- , because of the inadequacy of statistically established norms.

Pfister reports a mean 0% of 51 for idiots: 42 for imbeciles; and 32 for morons; while Beck reports the coefficient of

DIAGRAM III



mental ages are the same, we may assume that such a factor must be looked for among the non-intellectual factors of personality.

Original Responses - 0%. (DIAGRAM IV facing this page).

A further factor of intelligence is the possession of an optimum high number of impressions which are original. Nevertheless, this number must not be so high that the individual loses his capacity for adapting himself to his fellows. From Table I, it will be seen that the percentage is high among these of superior intelligence, drops among those of low average or low intelligence, and rises again among the mentally defective group. Rorschach adds another complication when he says that the original given by those of high intelligence are "good" (O+), that is, they show a mind which has clear impressions sharply perceived forms and an optimum variability in functioning: whereas the originals given by those of low intelligence are poor (O-), that is, they are absurd responses that deviate so far from the average as to be original. Following Beck's example no distinction will be made between O+ and O- , because of the inadequacy of statistically established norms.

Pfister reports a mean 0% of 51 for idiots: 42 for imbeciles; and 32 for morons; while Beck reports the coefficient of

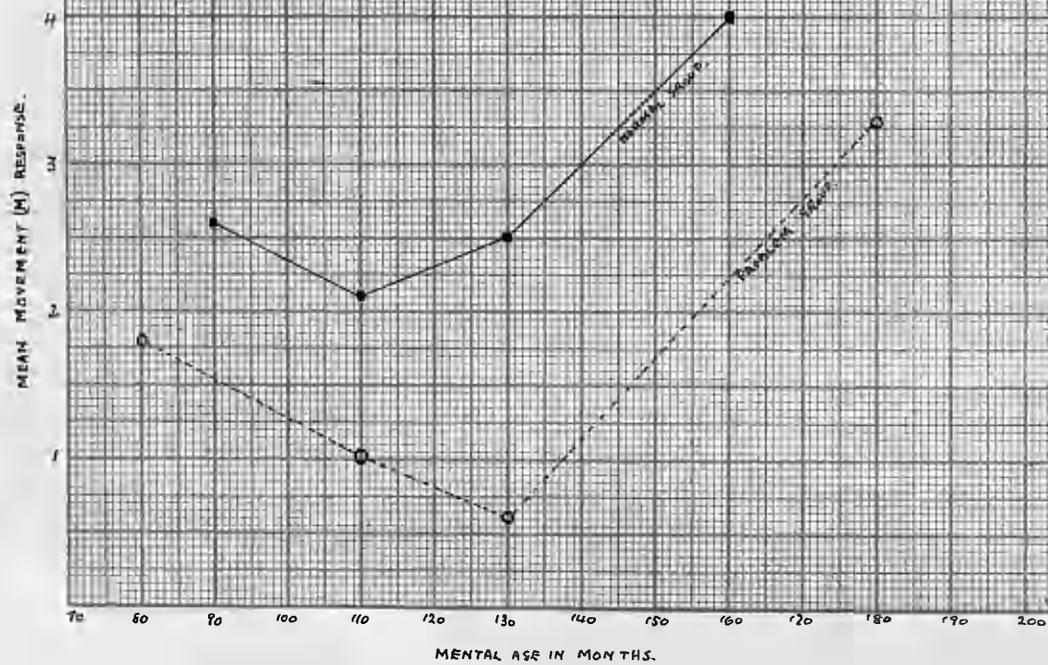
correlation for mental age and O to be $-.391 \pm .068$. In the case of both investigations, therefore, the O percentage was high at the lower mental ages and fell at the higher levels of mental deficiency. Diagram IV shows that in our groups the O percentage is also high at the lower mental ages, falls to about the ten year level and then shows a steady increase at the higher levels. It is interesting to note that in the case of the problem children, many more original responses were given in the lower ranges, that is, more responses deviating so far from the average as to be absurd, and that the lowest level is not reached until the 11 years, and that the rise, when it comes, is not so marked as that of the normal group. This can be taken to mean that the problem children are more infantile, and have less capacity for adapting themselves to their fellow creatures.

Summary of O Responses.

Table VI.

	MEAN	COEFFICIENT OF CORRELATION BETWEEN MENTAL AGE AND O % .
Normal Group	19.0 ± 1.74	$.17 \pm .097$
Problem Group	27.3 ± 1.07	$-.02 \pm .100$
Differences	8.3 ± 1.67	$.19 \pm .138$

DIAGRAM V.



From the above, we see that there exists a statistically reliable difference between the means in the direction of a greater deviation from the average response pattern on the part of the problem children. The coefficient of correlation between mental age and O is also more in keeping with the findings of Beck, Pfister, and Rorschach in the case of the normals, but the low statistical reliability of this finding compels us to regard this as an indication only.

Movement Responses. (DIAGRAM V facing this page).

Of the kinaesthetic responses Rorschach says that intelligent people produce a few responses in which they not only perceive form but also give memory impressions of movement: whereas those of stereotyped mind or mentally defective individuals give no movement responses. Correlating movement responses with mental age, in his mentally defective group. Beck found that the trend was rather definitely for the curve to rise with rising mental levels: the actual figures being $+.256 \pm .079$. Pfister reported that in idiots and imbeciles, no movement responses occurred, and in morons, only 0 - 1.

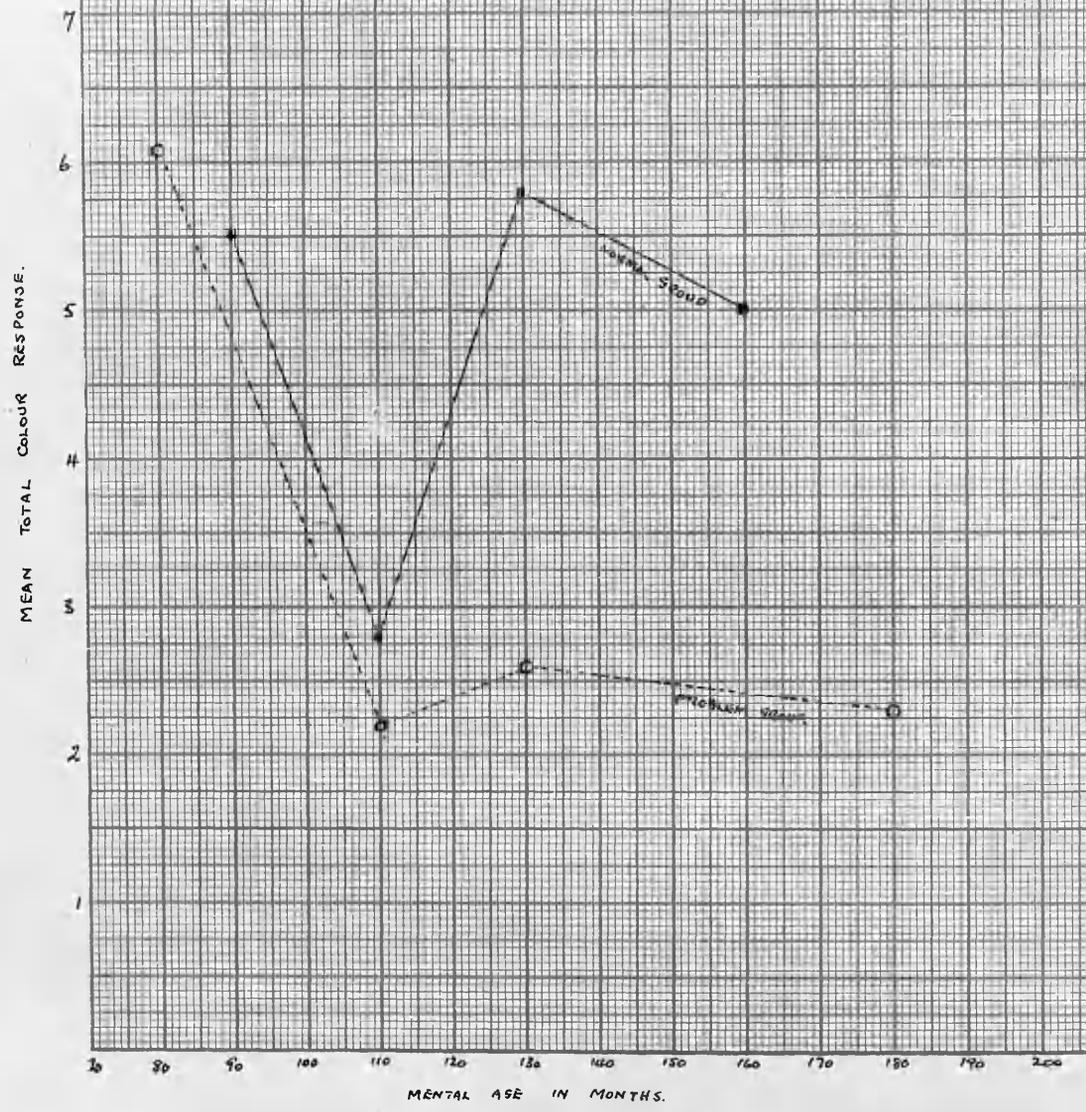
The results for our two groups may be summarised as follows:-

Table VII.

	MEAN	COEFFICIENT OF CORRELATION BETWEEN MENTAL AGE AND M .
Normal Group	2.50 \pm .61	+ .29 \pm .093
Problem Group	1.50 \pm .249	+ .26 \pm .093
Differences	1.0 \pm .54	.03 \pm .132.

From the above, it will be seen that there is a statistically reliable difference between the two means, the normal group producing 1.68 times as many movement responses as the problem group. This is confirmed by diagram V, which shows that there is an upward trend of movement responses with increasing mental age. This upward trend is shown by the diagram to start at an earlier age with the normal group and to be more consistent, a finding similar to that of the Original responses. The coefficient of correlation, however, between mental age and movement responses in the two groups is almost the same, and the difference between them shows no statistical reliability. In both groups, the co-efficient of correlation is too small to be meaningful, but is definitely on the plus side, while the probable error shows it to be statistically reliable. Yet, all that we are justified

DIAGRAM VI.



in concluding is that normal children produce more movement responses than problem children. This we may interpret as meaning that the normal group has a greater capacity for intellectual functioning and that the problem group is more stereotyped in mind. Further the normal group has a greater tendency to inner creativity and experience, and to phantasy living.

Colour Responses. (DIAGRAM VI facing this page).

Summary of Total C Responses.

Table VIII.

	MEAN	COEFFICIENT OF CORRELATION BETWEEN MENTAL AGE AND TOTAL C.
Normal Group	5.6 \pm .665	+ .29 \pm .093
Problem Group	3.1 \pm .458	-.41 \pm .084
Differences	2.5 \pm .98	.70 \pm .125

Beck found that the frequency of C responses was lowest at the mental age of 30 - 50 months, rose to a peak at 72 months, and fell steadily towards 120 months. He concluded that C. responses bore no constant relationship to mental level, which corresponds to the findings of Pfister and Rorschach. As

shown in Diagram VI, the C responses for our normal group were high at a mental age of 90 months, fell towards 110 months, and rose again for the higher mental ages of 130 - 170 months. The coefficient of correlation between mental age and C for this group is on the plus side, but is not statistically meaningful. In the problem group, the mean C response is high at 90 months and drops sharply at 110 months. The coefficient of correlation for this group is not high enough for statistical reliability, but indicates that there is a probable negative correlation between mental age and colour responses. The difference between these shows a statistically reliable finding that the normal children give more colour responses than do the problem children; while the difference of correlation between the mental age and colour responses in the two groups shows a very high statistical reliability in the direction that colour responses increase with mental age in the normal group, and decrease with mental age in the problem group. Our interpretation of the Total C responses would be that the normal group has a greater store of affective drive, and a greater fluidity of the affective life.

It will be noted that the above figures are for the Total C responses, and that, in scoring the individual record, Rorschach

scored colour in four different ways: i.e. C, CF, FC, and F(C). The primary colour responses (C) were indicative of irritability and impulsivity: the responses where colour was primary determinant but where form entered secondarily, showed affective lability, sensitivity and suggestibility. Where form was the primary determinant and colour was secondary, the response was taken to indicate ability for rapport with the environment: and where the response was indicated by differential shadings of grey (F(C)), it was taken to represent absorption in the far-away, a tendency towards a cautiously adapted and consciously guarded affect, and a will for self-mastery. If Rorschach's theories be valid, we ought to find a difference in affective disposition between our two groups.

Table IX.

	Mean C	Mean CF	Mean FC	Mean F(C)
Normal G.	1.4 ± .162	1.14 ± .168	2.00 ± .187	3.28 ± .313
Problem G.	.785 ± .163	1.08 ± .215	.63 ± .02	1.91 ± .286
Diff. between Means of Normal & Problem Groups.	.615 ± .227	.06 ± .27	1.37 ± .184	1.37 ± .325

We note from the above that there is a statistically reliable difference between the mean FC, and F(C): a fairly

reliable difference between the mean C and a difference of no significance between the CF factors. Such a result we might interpret to mean that the normal children have a greater store of primitive egocentric affective drive, which is well-balanced by a much greater store of well-adjusted affect (FC) for we note that this factor shows a greater deviation between the groups than any other index. The problem children are, in short, less well supplied with emotion which is under control and which can be consciously used and directed into useful channels; they *the normals* have a greater affective rapprochement to their environment.

Turning to the F(C) factor, we note that here again the normal group have a greater store of absorption in the far-away, a greater tendency towards a cautiously adapted and consciously guarded affect and a greater will for mastery.

We may sum up the colour responses by saying that the normal group not only possess a greater store of affect but makes use of its affective drive in a more adapted and guarded manner, and have a greater effective rapprochement to its environment. In other words, the emotional energy is there, and they are able to direct it to useful ends. The problem group, on the other hand, has but a small store of affect and, small as it is, has little control over it.

Experience Type. (Erlebnistypus).

Having reviewed our results for the colour and movement responses, we must now discuss Rorschach's most original and outstanding contribution to the examination of personality. That is, his technique for measuring the direction of the individual's psychic reaction; whether the tendency is inward or outward. The two factors are the movement responses, which are an index of the need towards interiority of life and psychic the colour responses, which are an index of exteriority. The proportion of the two factors relative to each other is a supremely important index to the individual's type of affective experience. To quote Rorschach "The absolute number of C responses gives a measure of the fluidity of affective life. Taken relatively - its relation to the movement responses it offers a measure of the affectivity which comes into expression - a measure of the stabilization of the affective life."

Examining the ratio between M and C in the two groups, we find that the Erlebnistypus of the normal group is 2.50 M : 5.6 C, while, in the problem group, the ratio is 0.15 M : 3.22C. The difference between the mean M and the mean C response is therefore in the case of the normal group, $3.10 \pm .85$, and in the problem group, $3.07 \pm .52$. There is, therefore, complete

DIAGRAM VII

ERLEBNISTYPUS NORMALSGRUPPE

INTROVERSIVE FACTORS (M)

EXTRAVERTSIVE FACTORS (e)

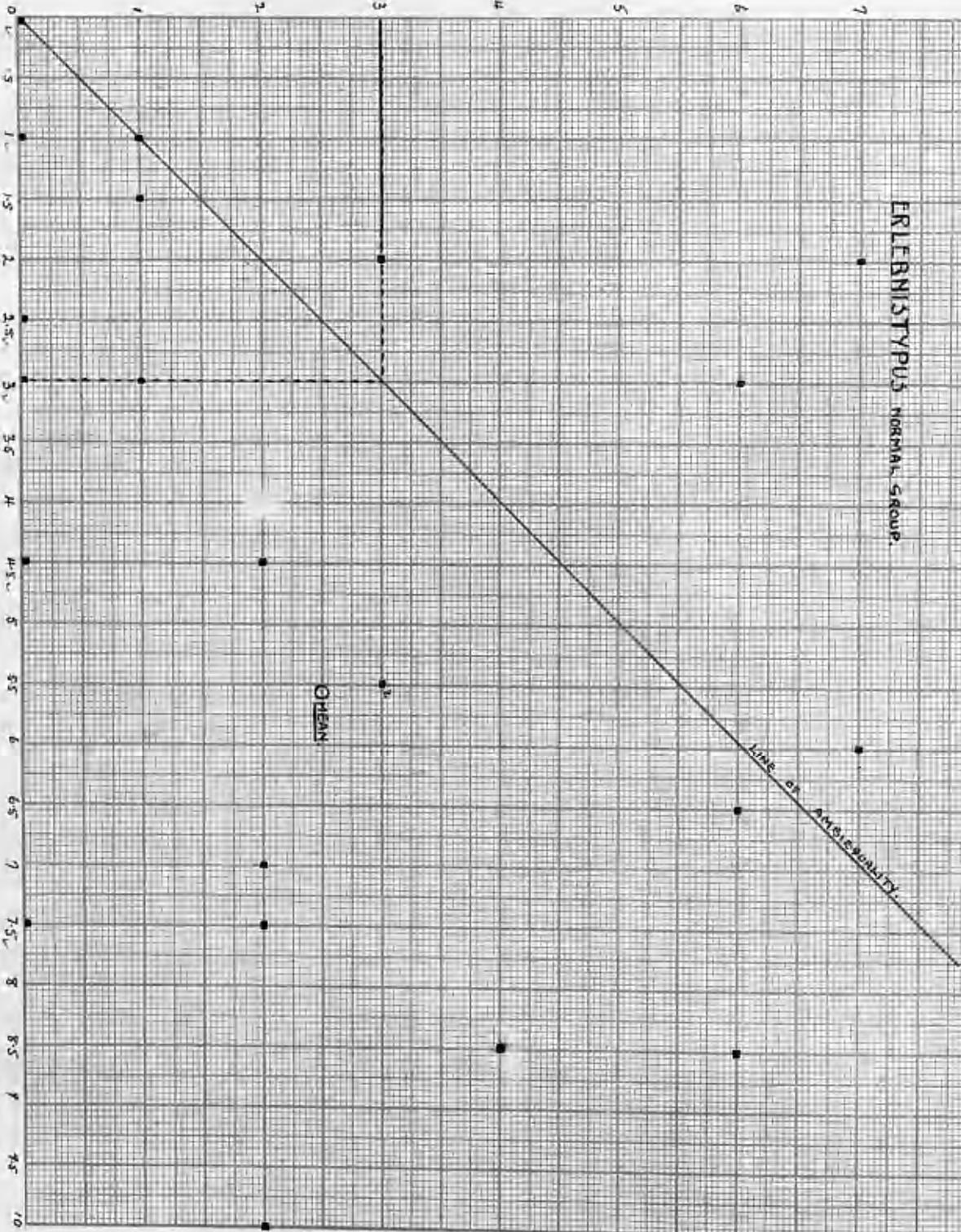
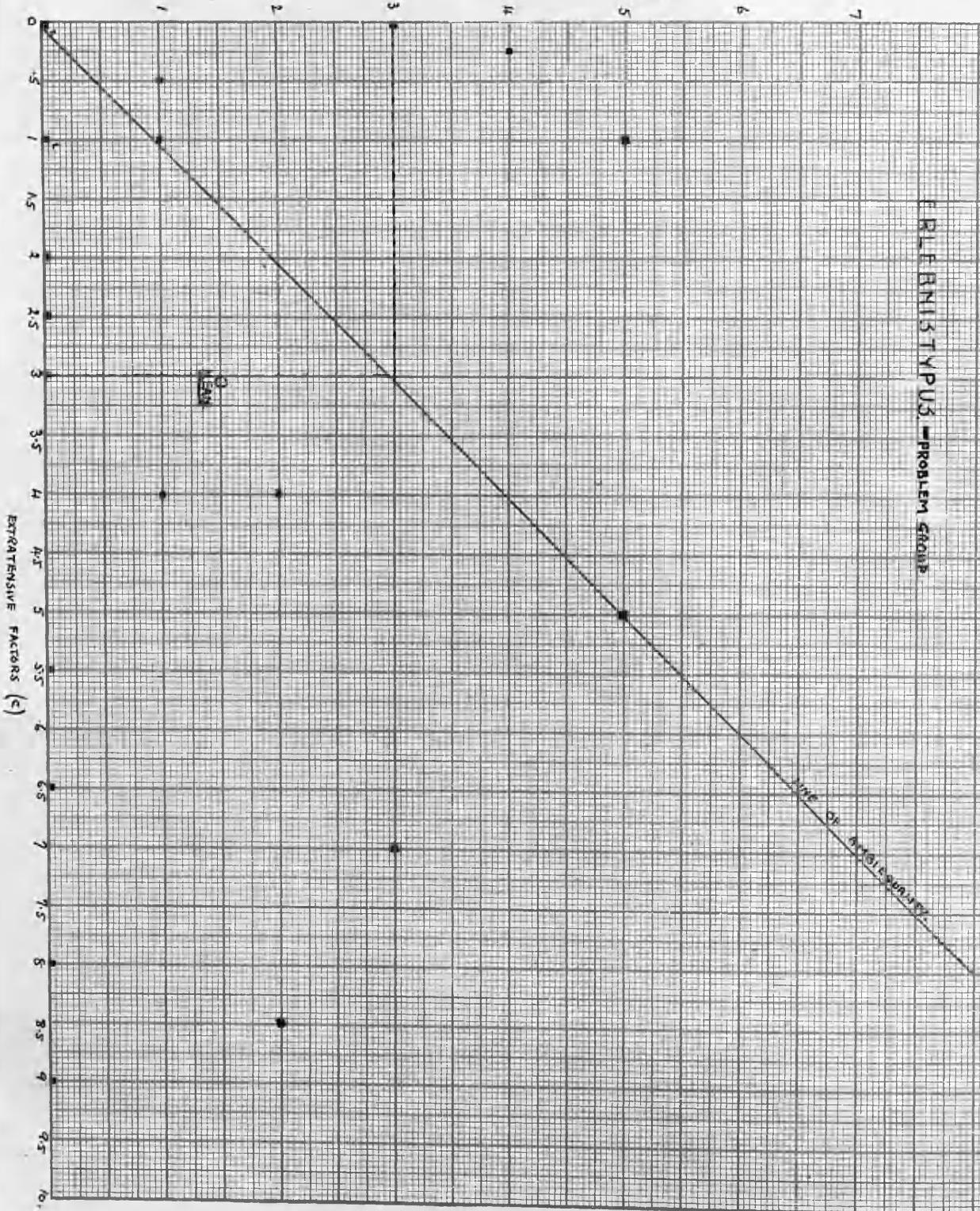


DIAGRAM VII

EPLEBNISTYPUS - PROBLEM GROUP

INTROVERSIVE FACTORS (M)



statistical reliability that there is a real difference between M and C in both groups, and that the difference is practically the same for both groups. We should interpret this to mean that there is a reliable similarity between the two groups in that they both show a tendency towards exteriority of psychic life, and they both show the same degree of extraversion.

It will be noted however, that the normal group are more dilated - that is, they give a greater total number of M and C responses than do the problem group. This is shown more dramatically if one plots the Erlebnistypus of each individual examined in the following manner.

(DIAGRAMS VII AND VIII facing this page)

If it is taken that an Erlebnistypus of 3 M : 3 C is the boundary line between coartation and dilation, it will be seen from the tables VII and VIII that, in the problem group, eight are coarted and three are dilated; while eight show markedly more C than M, and three more M than C. While in the normal group, five are coarted and nine are dilated: five show markedly more C than M; and three show more M than C.

Tabulating these results and comparing them with those of Beck we have:-

Table X.

	Problem Group Percentage of Cases.	Normal Group percentage of Cases.	Beck's Problem Group Percentage of Cases.
Coarted Cases	36.3	22.7	35
Dilated Cases	13.5	40	13
Extratensive Cases ($M < C$)	36.3	22.7	32
Introversive Cases ($M > C$)	13.5	13.5	18

There is, therefore, a close similarity between Beck's problem group and our own in that there is a much higher percentage of coarted than dilated cases, and many more cases are extratensive than introversive. The normal group forms a marked contrast in that there is a higher percentage of dilated than coarted cases, and further that the percentage of extratensive and introversive cases is the same.

Before attempting an interpretation of these findings, we must define the terms 'dilated' and 'coarted' in Rorschach's own terms. The former response pattern, he said was "an expression of associational activity, heightened under emotional impulse;..... the ability to escape from stereotyped living;..... the capacity

for inner creativity." While the coarted individual had "an abhorrence for fantasy and for all fluidity of affective self-expression, a conscious and guarded self-control over his entire experience an immolation for the capacity for richness of psychic experience a stunting of the psyche." And when we think of the broad characteristics of our two groups - the normal children happy, carefree, at peace with their environment, secure at home or in the playground and successful in their studies; the problem children unhappy, anxious, at war with their environment, feeling themselves rejected at home and unpopular with their peers, unsuccessful in their work and compensating for their unhappy lot by aggressive behaviour against their environment, mannerisms, delinquency, archaic and infantile behaviour, or the creation of an ideal phantasy life - then we are not surprised that we should find the normal group for the most part dilated, and the problem group for the most part coarted.

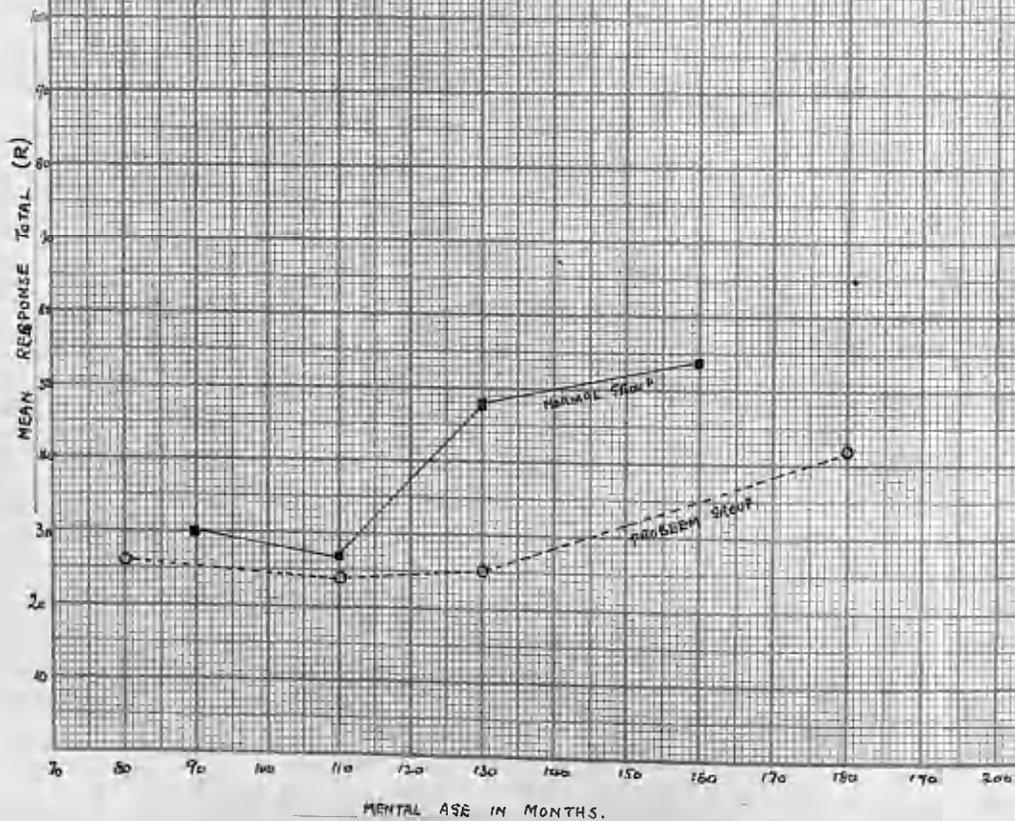
Other Test Factors.

Having considered the six factors which vary with mental age, we must now turn to several other factors which are of great importance though they do not, according to Rorschach, give an indication to intellectual endowment.

Response Total (R) (Diagram IX facing this page).

This factor was not considered by Rorschach to be an important diagnostic sign. He says, however, that R "depends on affective status as well as associative trend. Morons exceed the median for normals because the apparently simple task buoys them up." For the normal group of adults, he gives an incidence of 15 - 30. Beck and Pfister both disagree with Rorschach in this respect; the former obtaining a mean of 21 - 63, and the latter 21. Beck finds no correlation for mental age and R ($r = -.012 \pm .08$) and suggests that at the lowest mental ages, associations are too few to produce many responses, at the middle range, associations are uninhibited, while at the upper range, criticism reduces the productivity. It is to be remembered, however, that the highest mental age of his group was 10 years and 4 months, and had he considered the higher mental age, he might have postulated that another rise of productivity would take place with increasing wealth of experience and greater range of associative processes. Diagram IX shows that a drop in R occurs between the mental ages of seven and ten years, and that there is thereafter a rapid and steady rise with mental age. Here again it will be noted that the rise takes place earlier in the normal than the problem group, and that, when it does occur,

DIAGRAM IX.



it is more rapid and marked. This reflected in the correlations between mental age and R which show that there is a negative correlation in the problem group and a positive correlation in the normal group; the difference between the correlation is statistically reliable.

Table XI.

	MEAN	COEFFICIENT OF CORRELATION BETWEEN MENTAL AGE AND R.
Normal Group	40 \pm 4.30 -	+ .49 \pm .08 -
Problem Group	27.3 \pm 1.28 -	-.14 \pm .09 -
Differences	12.7 \pm .28 -	.63 \pm .16 -

We may interpret these findings to mean that the normal children show a greater sheer productivity and a wider range of association: and that the problem children have their productivity and asociative trends reduced by the maladjustment of their affective status.

There is another aspect of the Response Total which must be considered. It will be seen that the normal children gave (in round figures), 280 more responses than the problem children; that normal R was 1.4 times greater than problem R. In short, certain factors, which are not calculated as a percentage of R, had a

greater chance of occurrence in the normal than in the problem group, and if these factors were given an equal occurrence, the factors of the problem group would have to be multiplied by 1.4.

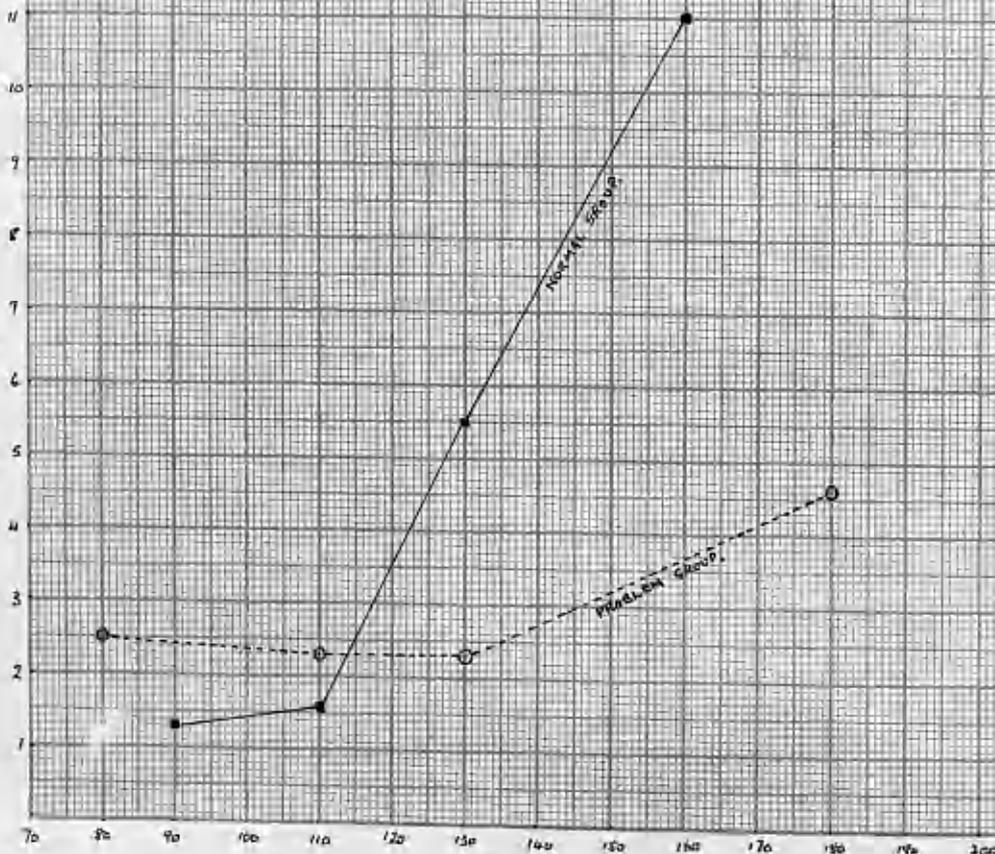
Table XII.

Problem Group Factors Untreated			Problem Group Factors x 1.4	
	MEAN	NORMAL MEAN MINUS PROBLEM MEAN	MEAN	NORMAL MEAN MINUS PROBLEM MEAN
C	3.1 \pm .458	+ 2.5 \pm .98	4.34 \pm .436	1.26 \pm .63
M	1.5 \pm .249	+ 1.0 \pm .54	2.1 \pm .24	.4 \pm 1.3
W	3.3 \pm 1.42	-1.3 \pm 1.22	4.62 \pm 1.36	-3.14 \pm 1.8
Ds	2.3 \pm .512	.1 \pm .66	2.76 \pm .490	-0.74 \pm .55

From these calculations, it will be seen that considerable difference would be made in the end results if allowance were made for variance in actual productivity. Rorschach, however, makes no such allowance, for he did not consider the response total to be an important factor. It is of interest to note that the difference made in the end results by allowing for variation in response total would make a much less reliable difference of response between the two groups in the direction least expected.: that is, the problem children, on this basis of calculation,

DIAGRAM X

MEAN BY RESPONSE.



MENTAL AGE IN MONTHS.

would show greater fluidity of affective life, more inner creativity etc. than they do when no allowance is made for response total.

Rarely-perceived Detail Responses (Dr): (DIAGRAM X facing this page)

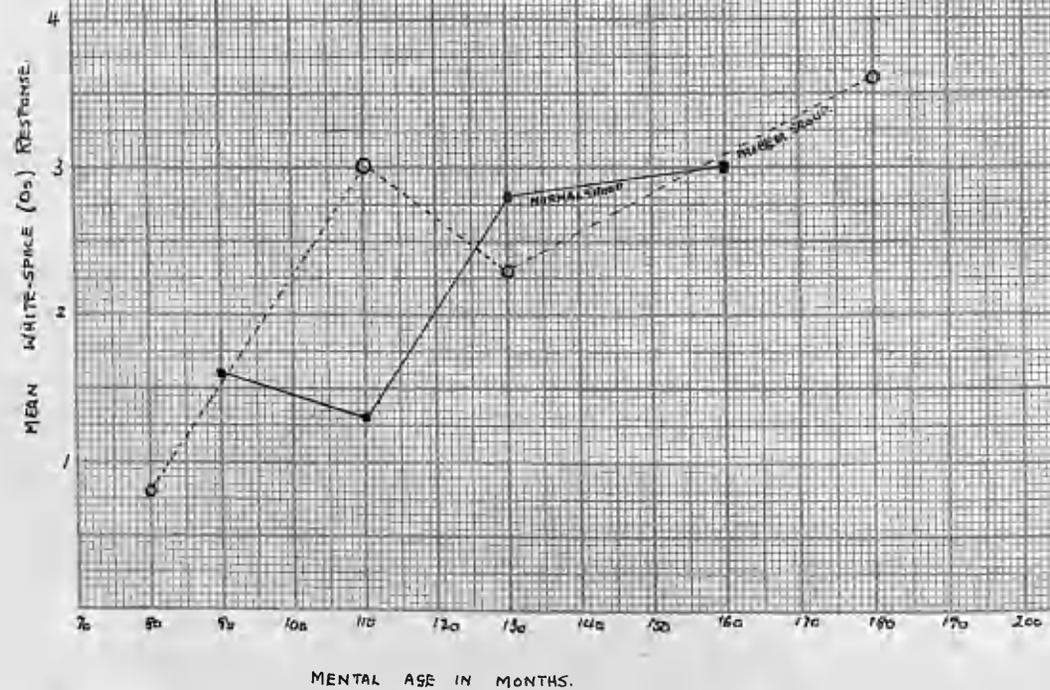
Dr responses are given to the minor unimportant details of the picture, but it must be remembered that they are unimportant merely because intelligent normals do not notice, them, for the criterion for Dr classification is a statistical one, depending on whether normals select them or not. Psychologically, they indicate an over-emphasis of the non-essential. The subject may have a tendency to lose himself in trifles, to brood over accessories, or he may be a careful and painstaking observer, without, however, the capacity for abstraction. Rorschach does not discuss Dr. in connection with his feeble-minded group, and thus he does not say whether Dr varies with mental age or not. But Beck gives a mean Dr for his group of 2.41 and a correlation between mental age and Dr of $-.148 \pm .078$. He concludes that there is no relationship between the number of Dr responses and the mental age. The results obtained for our two groups are as follows:-

Table XIII.

	MEAN	COEFFICIENT OF CORRELATION BETWEEN MENTAL AGE AND DR.
Normal Group	3.8 \pm .804	.60 \pm .098
Problem Group	2.6 \pm .317	.329 \pm .01
Differences	1.2 \pm .86	.271 \pm .03

From the above it will be noted that the normal group tend to give more Dr than the problem group, but the difference between the means is not statistically reliable. Both groups show a positive relationship between mental age and Dr; that is, the number of Dr responses tends to increase with increasing mental age, and this tendency is much more marked in the case of the normal group. This we may interpret to mean that with increasing mental age, the mode of apperception tends to be enriched by an addition of the rarer details to the subject's interest in the material as a whole, or in the prominent details of it. And here again, we see that the problem group lags behind the normal group, when an enrichment of apperception is taking place. It will be found later that Rorschach gives 6% as the proportion in which Dr occurs in the mode of apperception of the intelligent

DIAGRAM XI



normal adult. The Dr percentage in the normal group is 9.5 and in the problem group is 9.65. This means that both groups are inclined to be too much absorbed in the trivial and too much inclined to over-emphasise the non-essential. They lack a capacity for abstraction.

White Space Responses (Ds):

A response, according to Rorschach, which is an interpretation of a white space in the design, signifies a spirit of opposition. If the subject is extratensive, the negativism is directed against the external world; if introversive, the subject is at war with his inner self; if ambiequal, the negativism is directed against the subject's own consciousness. Two or more Ds responses are required before this tendency is to be regarded as significant.

As both groups are extratensive in character, and the problem children show by their behaviour that they are more at war with the external world than the normal children, we would expect that they would produce many more Ds responses. This was hardly the case. Only eight problem children produced two or more Ds responses, whereas thirteen normal children produced a sufficient number of to significant. For the problem group, the mean was $2.3 \pm .512$; for the normal group, it was $2.2 \pm .426$; the difference between the means being $0.1 \pm .66$. There is no statistically

reliable difference between the means, and yet there are more normal than problem children, who would be classified as negativistic by Rorschach. The explanation of this lies in the fact that two of the problem children produced 25 responses between them.

When we examine the case histories of the eight problem children producing two or more Ds responses, we find that they were, in every case, at war with their environment, their conscious self, or their most inner self. A brief outline of their symptoms will demonstrate the nature of their negativism.

1. Mental Age: 6 yrs. Extratensive. Temper tantrums. Dissatisfied with broken home and many changes of foster parents. Food fads. Dominates present environment but is unmanageable at school.
2. Mental Age: 8.5 yrs. Extratensive. Sullen; dissatisfied: bullying; destructive and unmanageable at home and at school.
3. Mental Age: 9.8 yrs. Extratensive: Stealing: bullying; fighting in gangs; at war with police.
4. Mental Age: 11.7 yrs. Extratensive: Stutter. Hates School. Grandiose day dreams to compensate for unsatisfactory home.
5. Mental Age: 8.7 yrs. Ambiequal: Congenital syphilis. Stutters. Feeling of inferiority regarding intelligence, compensated by negativistic aggression.
6. Mental Age. 12.6 yrs. Extratensive. Bullying: unmanageable at school. Tries to be grown up and to take place of father who deserted mother. Hates father and fears his return.

7. Mental Age: 15.6 yrs. Extratensive. Extremely shy, sensitive, dreamy type of boy, clever but hates company, school and masters. He is dissatisfied with home where he is made fun of. Feelings of inferiority regarding intelligence.
8. Mental Age: 16.9 yrs. Introversive. Anxiety-hysteria. Intensely dependent upon mother but hates herself and mother because of this. Death wishes directed towards her mother, repressed actively. Impressive and inferior feelings and marked ideas of unreality.

It is only fair to add, however, that of the remaining 14 cases showing less than 2 Ds responses, 3 cases show negativism of a milder nature, in their behaviour.

1. Mental Age: 6.6. yrs. Extratensive: Temper tantrums. Loves her own way. Hates and bullies younger brother. who displaced her in her mother's affections.
2. Mental Age: 7.5 yrs. Post-encephalytic. Sullen, dreamy, unfriendly. Has bursts of over-activity and occasional behaviour.
3. Mental Age: 8.3. yrs. Extratensive. Lives with aunt and female cousins who overprotect him. Cowardly but will bully younger boys. Shy and unfriendly.

It will be seen therefore that from the clinical standpoint Rorschach's assertion that Ds responses are indicative of negativism is, for the most part, reliable. The fact that the normal children produced as many Ds responses as the problem children cannot be explained by our present knowledge of the significance of this factor. It may be, however, that Rorschach's standard of two or more Ds responses is too low to be significant in the case of children. Perhaps in this case, the standard

should have to be set at three or more; and a less number than three may signify the normal healthy amount of aggression to be expected in children. This lack of healthy aggression and independence is noticeably lacking in many problem children.

Human (H) and Human Detail (Hd) Responses:

Human Responses. are, according to Rorschach, indicative of active intellectual functioning and high intelligence. They occur in high proportion, however, in schizophrenia, organic mental disorders and in those of manic trend. If they are indicative of active intellectual functioning, we should expect the normal group to produce a greater number than the problem group. This is shown to be the case by comparison of the results obtained. For the normal group, the mean was $3.0 \pm .685$, and for the problem group, $3.0 \pm .495$; the difference between the means is, therefore, $2.0 \pm .84$ - a figure which approaches statistical reliability. Here again, we see that the normal group is able to use their intellectual endowment in a more active way than the problem group.

Human Detail Responses on the other hand, are, according to Rorschach, indicative of depressive trends, low intelligence, anxiety, pedantry and stereotypy. We should, therefore, expect the problem group to produce more Hd responses than the normal

group. This is not the case, for the figures are: normal group mean Hd, $5.0 \pm .72$; problem group mean Hd, $2. \pm .23$. The difference between the means is $3 \pm .73$, a statistically reliable figure. In this factor our results do not agree with those of Rorschach's.

Erfassungstypus:

The Erfassungstypus consists in a summarisation of the mode of apperception of assimilation of the portions of the design. Beck has suggested that the best translation of 'Erfassungstypus' would be 'mode of attack on a problem', but it is generally referred to as the 'mode or type of apperception'. The ratio between the portions W, D, Dr, etc. in a response record is calculated, and Rorschach gives for the normal adult $W = 24\%$, $D = 67\%$, $Dr = 6\%$, $Ds = 3\%$. This factor is an index to the "manner in which the subject cultivates and practices his particular daily interests" (Rorschach, p.32). The abstract thinker emphasises W and gives a good apperception mode; the highly intelligent and some schizopphrenics have a rich mode, emphasising W, D and Dr. Some idea is, therefore, obtained as to whether the subject is interested in the material as a whole; in the obvious details; or in the rarer details.

Rorschach reports an apperception-type of D, Do for mental defectives, but Beck found that 72.5% of his group gave D, Dr. He interpreted this Erfassungstypus to mean that "the feeble-minded attended to separate elements (D) in the material presented to him, but his interest was also absorbed in the minor element (Dr) - minor in the sense that intelligent do not attend to them."

In our two groups, a great variation was found, in apperception mode, especially in the case of normal children. The results might be tabulated as follows:-

Table XIV.

Erfassungstypus	Normal Group	Problem Group
W - D -	2 or 11%	3 or 13%
W - D - Dr	1 or 4.6%	0
W - D - Ds	1 or 4.6%	2 or 11%
D - Dr - Ds	8 or 36.6%	5 or 22%
D - Dr	4 or 18.4%	9 or 41%
D - - Ds	5 or 22%	3 or 13%
D	1 or 4.6%	0

But if we take the apperception type of the mean W, D, Dr, Ds, we find:-

Table XV.

NORMAL GROUP				PROBLEM GROUP.			
W	D	Dr	Ds	W	D	Dr	Ds.
5%	80%	9.5%	5.5	12%	70%	9.6%	8.4%

This we may interpret as meaning that the problem group are too apt to lose themselves in vague generalisations, and do not take a sufficiently practical interest in the concrete, and that they waste their energy in negativism and useless tilting against windmills. The normal group are able to attack the problem on hand from different angles, and have a richer, more balanced mode of apperception.

SUMMARY OF SECTION. V

Dr. S.J. Beck's paper on problem children is summarized. The test was administered to 22 normal children, from the Notre Dame Montessori and Secondary Schools, Glasgow; and 22 problem children from the Notre Dame Child Guidance Clinic, Glasgow. The findings in response pattern of the two groups are here given and compared. The principal results are as follows:

Whole Responses: In neither group was any correlation found between mental age and whole responses. The problem children have a tendency to give more whole responses than the normal children, and there is a more significant relationship between mental age and W in their case. This may be accounted for by the fact that problem children, being conscious of their poor performance in scholastic attainments, are anxious to make a showing in a test which appears easy. It may mean also that they have a tendency to over-generalisation, a characteristic which was demonstrated in the individual records. These findings agreed neither with those of Rorschach, of Beck, nor of Pfister, who all found a positive correlation between mental age and whole responses.

Form Responses: The results for this factor were also different from what we should have expected. We found too low an F+%, and an indefinite positive correlation to mental age. The explanation probably lies in the dearth of detailed norms for clearly perceived form in the literature. The writer considers that a simplification of the scoring of this factor would be beneficial.

Animal Responses: Here our results conformed more closely with those of Rorschach than do Beck's results. We may interpret them to mean that the problem children are more stereotyped and pedantic, less imaginative and original than the normal children.

Original Responses: The results for this factor agreed with those of Pfister and Beck. When the two groups are compared, it is interesting to note that, in the lower mental ranges, problem children give more responses which deviate so far from the average as to be absurd; and that their lowest level is not reached until a year later than the normal children; and that the rise, when it does occur, is not so marked as that of the normal group. This we may interpret to mean that the problem children are more infantile, and have less capacity for adapting themselves to their fellows.

Movement Responses: These results agree with Rorschach, Beck and Pfister, in that there is a positive correlation between mental age and M. The normal children produce more movement responses than the problem children, and the upward trend, with mental age, starts at an earlier age in the normal group, and is more consistent. This we may interpret as meaning that the normal group has a greater capacity for intellectual functioning, and that the problem group is more stereotyped in mind. Further, the normal group has a greater tendency to inner creativity and experience, and to fantasy living.

Colour Responses: The normal children gave more colour responses than the problem children, and colour responses increased with mental age in the normal group, and decreased with mental age in the problem group. This was in general agreement with the results of previous investigators. Our interpretation would be that the normal group has a greater store of affective drive, and a greater fluidity of the affective life. Examining the individual colour responses, we find that the normal group not only possesses a greater store of affect, but makes use of its affective drive in a more adapted manner, and has a greater affective rapproche-

ment to its environment. The problem group has but a small store of affect, and small as it is, has little control over it.

Experience Type (Erlebnistypus): Here there is a close similarity between Beck's problem group and our own, in that there is a much higher percentage of coarted than dilated cases, and many more cases are extratensive than introversive. The normal group forms a marked contrast, in that there is a higher percentage of dilated than coarted cases, and that there is the same number of extratensive and introversive cases. This is in agreement with the clinical findings.

Response Total: This factor was not considered by Rorschach to be important diagnostically. Beck finds no correlation between mental age and R, but, in our normal group, the correlation was found to be $+0.49 \pm 0.08$, while our problem group showed a negative correlation. We may interpret these findings to mean, that the normal children show a greater sheer productivity, and a wider range of association, and that the problem children have their productivity reduced by a maladjustment of their affective status.

Rarely Perceived Detail Responses: Rorschach does not dis-

cuss Dr in connection with his feeble-minded group, but Beck concludes that there is no relationship between the number of Dr responses and mental age. Both our groups gave a positive relationship between mental age and Dr, but the tendency for Dr to increase with increasing mental age is more marked in the case of the normal group. This we may interpret to mean that with increasing mental age, the mode of apperception tends to be enriched by an addition of the rarer details to the subject's interest as a whole, or in the prominent details of it. Here again we see that the problem group lags behind the normal group when an enrichment of apperception is taking place. Both groups are inclined to be too much absorbed in the trivial. They lack a capacity for abstraction.

White Space Responses: The normal children produced as many Ds responses as the problem children, though we should expect that the latter, being more at war with their environment, would outnumber the former. It may be that the standard set by Rorschach for adults is too low to be significant in the case of children. Our results might be taken to mean that there is a lack of healthy aggression and independence in the majority of the problem children.

Human Responses: Here our results are in agreement with those of Rorschach, and demonstrate that the normal group is better able to use its intellectual endowment in a more active way than the problem group.

Human Detail Responses: Because Rorschach takes this factor to be indicative of depressive trends, low intelligence, anxiety, pedantry and stereotypy, we should expect the problem group to produce more Hd responses than the normal group. Our results showed, however, that the normal group produced a greater number of Hd than H responses.

Erfassungstypus (Mode of Apperception): Considerable variation is found between the two groups, which we may interpret to mean that the problem group are too apt to lose themselves in vague generalisations, and do not take a sufficiently practical interest in the concrete, and that they waste their energy in useless tilting against windmills. The normal group are able to attack the problem on hand from different angles, and have a richer, more balanced mode of apperception.

DISCUSSION AND CRITICISM.

We are now in the position to answer the questions which were asked at the beginning of this investigation - these were:-

- (A) Does a group of problem children test lower with the Rorschach than a normal group who have the same mean Mental Age when examined by standardised intelligence tests?
- (B) What is the nature of the factor, or factors, which cause this hemming-in of intellectual power in problem children?

(A) This question we can definitely answer in the affirmative. The problem children were shown to be conscious of their poor performance in scholastic attainments and were eager to make a showing in a test which appeared easy and indulged in over-generalising trains of thought to the extent that they were blind to many of the essential factors and overlooked what was most easily grasped. They were more stereotyped and pedantic, less imaginative and original than the normal children; they were more infantile in thought and had less capacity for adapting themselves to their fellows. The normal group had a greater capacity for intellectual functioning and a greater tendency to inner creativity and experience.

The normal group showed a greater sheer productivity and a greater store of healthy aggression and independence than the problem group. In attacking a problem the normal group had a richer and more balanced mode of apperception while the problem group tended to lose themselves in vague generalisations and to waste their energy in useless tilting against windmills. We might also point out the most interesting fact that in four factors which increased with increasing Mental Age the problem group did not show this rise until about a year later than the normal group and that the rise, when it did occur, was not so marked.

(B) This is a much more difficult question to answer and the writer feels that the material examined is much too meagre on which to base any reliable or irrefutable findings. Until, therefore, a greater amount of material has been collected and examined we can only indicate in what direction we may look for the answer. Thus the normal children were found to possess not only a greater store of affective drive, but to make use of it in a more adaptive manner and to have a greater affective rapprochement to their environment. The problem group, on the other hand, had less fluidity of the affective life, a smaller store of affective drive and, small though it was, had little control over it. The normal group

tended to show associational activity, heightened under emotional impulse, the ability to escape from stereotyped living, and the capacity for inner creativity; while the problem group tended towards an abhorrence of fantasy and for all affective self-expression and towards a stunting and crippling of the psyche. Further, the problem child lacks confidence in his ability to control his instinctive ego-centric impulses and his relations with his environment. To put this more simply, he does not know how he is going to behave towards other people or how others are going to behave towards him. This lack of confidence in himself and in the outside world leads to a stiffening of his capacity for all experience, to a retreat within himself, or to indulgence in compensatory forms of behaviour which bring him into conflict with his environment because he finds a normal adjustment to life so difficult.

SECTION VI.

**A Study of the Epileptic Personality by
means of the Test.**

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S E C T I O N VI.

Much has been written about the epileptic character and many investigators have taken great interest in this elusive and still undecided subject. Bleuler⁽³⁵⁾ states that specific psychic characteristics are associated with epilepsy which as a rule increase with the duration of the disease: and, according to the degree, he speaks of an "epileptic character", "epileptic psychopathic constitution", or in severer cases, of "epileptic dementia".⁽⁴³⁾ Jones states that diagnosis should be made on the interparoxysmal behaviour rather than upon observation during the actual fits and urges further investigation of the deeper sources of mental abnormalities because many cases of epilepsy are amenable to psychoanalytic treatment. Henderson and Gillespie⁽²⁷⁾ point out that the traits constituting the epileptic character can often be shown to have existed before the fits began and that the disorder called epilepsy develops only in characteristic epileptic make-up. Further, the mental deterioration of the epileptic is the direct outcome of the epileptic character and fits can be considered to be nothing more than psychological reactions to the epileptic environment.⁽³⁴⁾ Stoddart emphatically states that epilepsy is "essentially a mental disorder -

a fact which tends to become minimised or forgotten on account of the maze of important pathological findings."

The modern conception of the main characteristics of the epileptic character may be summarised, shortly, as follows:-

General Attitude and Behaviour.

Bleuler speaks of the conduct of epileptics being well regulated but trying to those in the vicinity because of their fussiness. If left to themselves they get into difficult situations and tackle work too hard for them because of their optimism. (MacCurdy⁽³⁶⁾ States that the epileptic will work for praise but not for love). Their movements tend to be clumsy and uncertain, although bodily strength is good. Jones,⁽⁴³⁾ Stoddart,⁽³⁴⁾ Clark,⁽⁴⁰⁾ and Bleuler speak of their egocentricity, which leads to a great narrowing of the field of interest - the patient shows interest only in his immediate surroundings, unlike the schizophrenic who suffers a more general narrowing of interest. Hence the epileptic turns more and more from reality. This loss of interest leads to a reduced capacity for attention although his comprehension is good when his attention can be focussed. Jung⁽³⁷⁾ and Stoddart call attention to the delay of reaction time of response; the subject tends to repeat the stimulus word or answer in a sentence. Intrinsic associations are concrete, extrinsic

associations are rare, especially these of motor speech. They exhibit a certain amount of vanity in their dress and pay unnecessary attention to bodily health, especially with regard to the actions of the bowels. They try to get others into trouble and to obtain sympathy for themselves. If he is offended, the epileptic is particularly brutal and ferocious; murder is one of his instincts and, in most asylums, the inmates of the epileptic ward are generally regarded as being potentially "dangerous" (Stoddart). The final stage of an epileptic is a purely vegetative existence reminiscent of the infant but showing much less spontaneity. He has to be clothed, fed and cleaned, makes no effort to control his sphincters, does not utter a word and has an entirely vacuous expression. (Henderson and Gillespie).

Strain of Talk.

Bleuler, Stoddart, Jones, Henderson & Gillespie all call attention to the slow, hesitating, monotonous speech of the epileptic and Bleuler states that it is characteristic enough to warrant diagnosis. Scripture has demonstrated, by means of an apparatus, the melody plot or "plateau speech" of the epileptic and this is a peculiarity of the epileptic voice which may be detected by direct observation. The stream of

talk and composition of the epileptic demonstrates his poverty of ideation; his conversation is rambling, clumsy, pedantic and he uses superlatives. He deals with trivialities in a verbose way and often perseverates to a marked degree. Regarding his ideation, Bleuler says "the patient clings to the simple and the present - his ideas are limited to his personality - : then to the members of his family (family gossip) to his clothes (whining about clothing) and to a number of trifles which they like to carry about. The consciousness of their inferiority, the need of support and of putting the salvation of their personality in the foreground, of clothing vague ideas with pathetic, beautiful, coined phrases, and also with intense feeling; all these give them the opportunity of assuming a rabid piety in religious circles, and of dressing their weal and woe in corresponding formulae (God nomenclature)..

Mood.

The affectivity of the epileptic, according to Bleuler, is peculiar in that an existing affect lasts a long time and is difficult to divert by later impressions; it is not merely irritability that shows itself in this manner, but other affects, such as attachments, or joy, all take the

same course. "Mood as a rule is decided and the unimportant readily takes as strong a mood as the important": righteousness also takes on a disproportionately strong affective colouring, and an increased interest is devoted to the patient's ego. They are incapable of evaluating the interests of others; whatever causes them joy or anger, they consider similarly important and emotionally coloured for others.* The patient becomes more susceptible to flattery, he indulges more and more in boasting, the childishness of which is in direct proportion to the degree in which insight and judgment in general have deteriorated; his vanity increases, and yet the care of his personal appearance decreases: and his interest becomes exclusively centred on his body (Henderson and Gillespie).

Bleuler considers the moods, to which epileptics are prone, of importance. Thus there may be euphoric moods with ideas of being finally cured of epilepsy, but without flight of ideas; depressive moods, with emphasis on the incurability of their disease, but seldom with suicidal impulses; and the most common mood of irritability in which the patient conducts himself in a presumptuous and impudent fashion. These moods

* MacCurdy also emphasises this point when he says, "They are considerate without being kind and religious without zeal."

may appear suddenly and disappear as quickly, or they may appear furtively and last hours or days.

Delusions and Hallucinations.

Delusions are usually the product of affective influence, and are nearly always of persecution. They are almost always quickly corrected by the next opposite mood, but may last longer if they occur in "the twilight state". Chronic hallucinations are uncommon, but a hallucinatory delirium may occur during twilight states. The hallucinations are often visual and the patient may have fearful visions of hell and the devil; more rarely there occur ecstasies and blissful erotic-religious hallucinations of all the senses. (35)

Orientation.

Except in conditions of most advanced dementia, which only a few attain, and in twilight states, orientation is good. (Bleuler).

Memory.

Memory defect is characterised, according to Jones, by a greater loss than is seen on the surface, through memories regarding matters of personal interest only being retained. The amnesia is amenable to treatment, unlike that found among psychotics, and is easier to cure during hypnosis. Jones

states that no attempt is made to supplement the lost memories by confabulation, but Henderson and Gillespie declare that some patients have insight for their memory defect while others fabricate to fill up the gaps. Rorschach holds that confabulation is a common trait found in epileptics.

Intellectual Faculties.

There is general agreement that the intellect suffers greatly. Stoddard says that "apart from the tendency of true epilepsy gradually to reduce the intellectual capacity, even to extreme dementia in many cases, the patients suffer from poverty of ideation and sluggish mentality similar to that of a child of four or five years of age. Indeed this mental infantilism is the key-note of all the mental characteristics of the epileptic."

Sexual Life.

According to Jones the sex drive of epileptics is violent, and perversions are common. If a sexual crime is bizarre, epilepsy should be suspected. Freud suggests that epilepsy is due to developmental errors of the sex instinct. Maeder's (38) conclusions regarding the abnormalities of epileptics are as follows:-

- a). The sex drive is stronger and more imperious than in

the normal, and this results in perverse activities which resemble those of normal children. Thus the epileptic is said to be at the "polyvalent perverse" level sexually. He indulges in auto-erotic and narcissistic activities.

b). Oral-anal-masturbation is frequent. Thus the epileptic's fondness for kissing; bulimia; stool-hypochondria; and fetishism, as shown by the gratification obtained from rubbing the hands together.

c). Various moods are associated with sex activity. Thus taciturnity and reserve correspond with a predominance of auto-erotic interests, and expansiveness with allo-erotic. Twilight states give sexual wishes their fulfilment. Their irritability is due to over-charged sex tension.

d). Perverse forms of allo-erotic activity.

- 1) Passion for touching and stroking objects, especially the skin, e.g. they linger while shaking hands.
- 2) Tendency to exhibitionism.
- 3) Algolagnia (association of lust and pain). Sadistic tendencies giving rise to lust, murders, and cruelty. (40)

Pierce Clark has made many detailed studies of epilepsy from the psycho-genic point of view. The key to the problem is, he thinks, erroneous development of the sexual instinct.

The essential nucleus of the affective defect is concerned with sexual infantilism. There is an abnormal retention of infantile narcissism and a marked fixation at the homosexual phase of development. Adopting a suggestion made by Ferenczi,⁽⁴¹⁾ he thinks it probable that the epileptic fits represent the periodical abreaction of accumulated energy in a form that corresponds with a regression to the infantile stage of inco-ordinate movements.

Rorschach does not, in his book, devote a section to the consideration of the epileptic character, but throughout the text he makes scattered remarks from which we may outline his conception of the type of personality found in epileptics. Of the epileptic's egocentricity, he says, for instance, that he shows a real lack of affective insight: he has a "hail-fellow-well-met" attitude and expects to find others in the same frame of mind: he thinks his own thoughts important enough to set the world on fire: he is open to insult and easily irritated, yet cannot understand these reactions in others. He is carried away by his emotions, yet cannot conceive why others are not equally thrilled; and, if he is in love, he expects the whole world to be happy also. Epileptics are prone to indulge in confabulation and in this respect

Rorschach disagrees with Jones. Perseveration and stereotypy of thought are found to a marked degree in their records, yet their responses vary greatly from subject to subject; they do not, like most perseverators, remain attached to animal or human detail associations, but pick out often an unusual object and return to it in each of the remaining cards. Furthermore, they are prone to point out laboriously certain self-obvious points about the cards. They call attention to the symmetry with maddening persistence and count over the colours with typical epileptic thoroughness. Their desire to make a showing and call attention to themselves is marked. Negativism is not one of their characteristics. Like Jung, Rorschach finds that epileptics have a very long reaction time. They show an extreme lability of affect, an irritability, impulsivity and sensitivity, but despite this large amount of egocentric, uncontrolled affect, the associative components of affective adaptability are lacking. The will for self-mastery is implied and there is a fundamentally depressive attitude; they feel uneasy about their inability to control their emotions. They are intensely interested in themselves, and this leads to morbid trends of thought and hypochondriacal brooding. Their intellectual functions are inferior or impaired.

THE PRESENT INVESTIGATION.

The aim of the present investigation is twofold. First, to see whether Rorschach's norms of epilepsy can be substantiated, and secondly, to see whether the records of epileptics reflect the characteristics of the epileptic personality as described by clinicians.

Comparison of Results with Rorschach's Norms.

In Rorschach's norms there are included 20 cases of epilepsy. The number appears to be a very small one on which to base reliable conclusions for the diagnosis of this condition. No further mention of the application of the Rorschach test to epilepsy occurs in the literature, and it appeared to the writer that further study would be of much value, as indeed Rorschach himself suggests on several occasions. It was the writer's intention to collect as large a number of epileptic records as possible, but the difficulty of so doing soon became apparent. For it is difficult, as Rorschach no doubt found, to obtain a sufficient number of responses, or indeed any responses at all, from the type of epileptic found in Mental Hospitals. Some of them are too demented to respond to the test, others are stimulated by the pictures to a degree of confabulation and free association which makes their responses

T A B L E XV

	R.	W	dW	D	Dv	As	Do	F%	C	CF	FC	TOTAL C M		H	Hd	Am	A%	O%
J.B. ♂	1. 30	0	0	23	4	3	0	81	0	2	1	2.5	0	5	3	0	39	6
A.M. ♂	2. 25	3	0	22	0	0	0	68	2	1	1	4.5	5	8	2	3	20	28
H.M. ♂	3. 35	0	0	29	4	1	1	48	0	0	3	1.5	0	2	1	0	40	24
J.M. ♀	4. 12	0	0	8	4	0	0	60	0	0	1	0.5	0	0	0	0	34	0
I.C. ♀	5. 13	1	0	8	3	0	1	45	1	0	0	1.5	0	1	5	0	15	0
M.T. ♀	6. 20	0	0	12	6	2	0	50	1	0	0	1.5	2	2	5	0	25	25
E.L. ♀	7. 30	0	0	25	5	0	0	67	0	1	0	1	5	12	0	0	42	9
C.L. ♀	8. 34	3	0	24	6	1	0	45	4	2	4	11.5	1	7	1	0	32	44
M.B. ♀	9. 43	3	0	27	11	2	0	61	0	0	3	1.5	0	2	5	1	16	16
J.M. ♂	10. 17	0	0	9	4	4	0	54	0	1	1	1.5	0	0	0	0	23	35
H.S. ♂	11. 15	6	1	7	0	1	0	46	0	3	0	3	1	0	1	0	27	33
S.M.P. ♂	12. 16	5	1	7	2	1	0	40	2	0	0	3	0	2	2	1	25	25
M.S. ♀	13. 19	1	0	15	1	1	0	45	1	0	2	2.5	6	2	2	7	26	35
M.S. ♀	14. 49	4	0	25	13	7	0	60	2	0	0	3	0	8	1	0	35	28
K.H. ♀	15. 22	5	0	12	2	3	0	66	6	5	1	12.5	3	1	1	0	47	29
W.A. ♂	16. 30	4	0	24	1	2	0	72	2	1	2	5	1	0	3	0	33	21
J.B. ♂	17. 29	8	1	15	1	3	0	60	2	3	2	8	5	1	9	5	15	24
J.F. ♂	18. 21	6	1	14	2	0	0	36	2	1	0	4.5	5	5	1	5	15	20
MEAN	25.6	2.7	.2	16.8	3.5	1.6	.01	55.7	1.4	1.1	1.1	3.8	1.6	3.2	2.3	1.0	26.2	22.6
STANDARD DEVIATION	10.2	1.9		7.6	3.4	1.7		11.8	1.5	.24	.24	3.4	1.8	3.4	2.2	2.0	8.3	11.3
STANDARD ERROR of MEAN	2.2	.41		1.8	.80	.38		2.6	.36	.04	.04	.81	.42	.82	.48	.48	1.8	2.3

valueless, while others take an extreme dislike to the test, and may threaten to destroy the material or the examiner. One of our patients, indeed, succeeded in tearing up a set of cards. As a result of these difficulties, the writer has only been able to obtain 18 reliable records, during the course of some three years' work. It is recognised that this is much too small a number on which to base any conclusions, but the findings, if treated statistically, may give some valuable indications as to the validity of Rorschach's figures.

The cases were, without exception, insane epileptics, in whom a degree of dementia was apparent. (I am obliged to Professor D.K. Henderson and Dr. Donald Ross for permission to publish these cases). They had all been inmates of mental hospitals for many years and as they were all middle-aged, or older, they would correspond to Rorschach's "Late Dementia" of the "slowly progressive type."

Table XV shows the responses obtained from the eighteen psychotic epileptics. (Table XV facing this page).

Rorschach gives (pp.52-3) a table of norms for the incidence of various test factors. He does not state whether these figures were obtained by statistical methods, but it is unlikely that a careful, painstaking investigator like

Rorschach would publish figures obtained by any other method. In order to obtain a range which can be compared with Rorschach's figures, the writer used Fisher's⁽⁴²⁾ formulae to obtain the Standard Error - thus:-

$$\bar{x} = \frac{1}{n} \sum (x)$$

$$\sigma = \frac{1}{n-1} \sum (x - \bar{x})^2$$

$$\text{Standard Error} = \frac{\sigma}{\sqrt{n}}$$

where \bar{x} = Arithmetic mean,

σ = Standard deviation.

The standard error was then multiplied by two, and this figure was added, and subtracted from \bar{x} to give a range, the chances of which being exceeded in either direction is once in twenty-two trials.

We can now give our results obtained in the above manner and contrast them with those of Rorschach.

Table XVI.

TEST FACTORS	Total C	F+%	M	C	CF	FC	A%	O%	W	Erfassungstypus
RORSCHACH	4-7	50-60	1-2	1-2	2-3	1-2	35-50	20-40	4-7	dW, D, Dr
PRESENT RESULTS	2.2-5.4	50-60	1-2.5	.7-2	1-1.2	1-1.2	22-30	18-26	2-3.5	W, D, Dr.

As Rorschach does not give the standard deviation of his figures, we cannot compare the two results statistically. We

may assume, however, a definite correspondence between the factors F+%, M, C, FC, and Erfassungstypus. On the other hand, our total C, CF, A, O, and W are all lower than Rorschach's figures. This is also apparent when we compare the means.

Table XVII.

	F+%	M	Total C	C	CF	FC	A%	O%	W
RORSCHACH	55	1.5	5.5	1.5	2.5	1.5	42.5	30.	5.
PRESENT RESULTS	55.7	1.5	3.82	1.4	1.1	1.0	26.2	22.6	2.7

Critical Examination of Responses.

Form Responses: The mean F+% was found in our series to be 55.7, with a range of 50.60, which is in close agreement with Rorschach's results.

Movement Responses: The mean M was 1.5, with a range of 1 - 2.5, which agrees with Rorschach's mean of 1.5 and range of 1-2. Rorschach states (p.29) that the greater the number of less clearly perceived form responses, the greater is the incidence of movement responses. Of our patients, 9 gave movement responses and 9 did not; the former cases gave a mean F-% of 42, while the latter totalled 46%. Thus Rorschach's assertion of the more F-, the more M, does not hold good.

Further, with regard to movement responses, Rorschach says, (p.30), "Form seems to be apperceived first and then movement; e.g. in Card III, an epileptic sees a man - begins by manoeuvring with his own body, bending and stretching it to suit the lines of the card, until it finally occurs to him that his own movements matched those of the figures he saw, and not until then does he give his responses, which may be clearly or unclearly perceived. It is a moot point whether the reaction of the epileptic differs from that of the normal purely by the retardation of associative processes peculiar to epilepsy." Of our eighteen subjects, only one matched his movements with those he saw in the card, but in this case, it was most striking.

CARD I: "I can't get the conception of it at all. (Turns and twists his body, stretches out his arms). The centre looks like a human being ... going up to (bends back his head and touches his neck) the neck, as if the head could sit on the arms upstretched (stretches out his arms, looks at them, and then at the card). The outstretched arms are rather broad."

CARD II: "The under part would be like the hips of the human body. (Gets up and sits on the corner of the table and

stretches out his legs). It would be like a person sitting on a table with legs outstretched, so that one could see the groin."

But it was more usual to find that form was apperceived first and then movement added, almost as an afterthought, without, however, any imitation of the movement. For example, Card III: "Two babies with a collar on each. Their hair is cut close ... (pause) ... They are talking to each other."

Colour Responses. Before discussing the colour responses, it should be noted that Rorschach (p.33) states that "in epileptics only, black and white responses can be scored as colour." Later, as Oberholzer shows, Rorschach began to score black and white responses as F(C) which was evaluated as .5. In his original work on epileptics, however, black and white responses were evaluated as 1.5, and the writer has followed this plan in order to be able to make a direct comparison with Rorschach's results. We also find the statement, that epileptics particularly those suffering from dementia, have "an almost specific type of primary C - they name the colour." (p.31). The illustrative case cited by Rorschach is a remarkable example of this tendency:

CASE I. Epilepsy. Rapidly developed typical epileptic dementia.

26 year old male, subject to epileptic attacks since his 13th year.

- CARD I. "A picture beautifully even on both sides, just like my drawings, black and white." W C+ colour
(Makes flying motions with his arms and says finally), "God with wings." - the D M+ O+
centre figure is God."
- CARD II. "Something made with ink, two colours, getting lighter and darker." "Two people w C colour
praying." (Kneels down in prayer, in imi- W M+ H
tation of the picture.) "Just as if I
were duplicated on the two sides. May they
do one another good."
- CARD III. "Three colours, including the paper - white black, and red. The same colours, only in another form."
- "The same as the last picture, only rather smaller. Two sitting figures." (the arms are taken for legs)
- CARD IV. "Two colours, getting lighter and darker. Beautifully even on both sides. It has the form of a person, but it isn't very good, somebody sitting. There are strips on the walls painted with figures like that." (Meaning the frieze)
- CARD V. "Two colours - it's the same again." (sees the bat's head, stretches up his arms, saying finally,) "A man's head, with two arms stretching up."
- CARD VI. "The colours are the same again." The upper end - "a plant with leaves." The large part (following that idea), "A bouquet."

- CARD VII. "Black and grey - a pale black. Again the same on both sides." (Turns the card upside down). The centre part - "A man's head, there's the eye, but the neck and head are not right." (Tries it with his own movements, turns and twists himself). "The body is all crumpled up, and here are the legs." (Those sticking-out bits that are often seen as a high style of hairdressing, when the card is the right way up D M- O-
 "As if there was water here in a jug." (Card right way up, white space) Dsd F- Obj O-
 "And I should just like to say now that all these drawings are done on paper."..
- CARD VIII. "There are four colours here: light red, and dark red, light blue and dark blue; should I specify that? Because of course exactitude is the main thing in life.".. W C colour
 Red - "Like a bear climbing, but of course, it isn't the right colour (goes over all the bears he know of, and makes sure that there is no red one). And it's the same on both sides. Exactly the same on both sides." D F A
 (Poses again, and manoeuvres his arms, saying,) "But it may be something bad, like a man standing, with erect sexual organ, but it's too big." D M- H O-
 Blue: "That might be a lake." D C Lake
 Grey: "And that a mountain." D F C+ mountain
- CARD IX. "There are only three colours here (enumerating them). It isn't just so beautifully even - still, it's quite even".. W C colour
 Brown: "Like the bogey-man standing there." D M+ H
 Slanting red: "A human face - an eye here." D F+ Hd
- CARD X. Enumerates the colours W C colour
 "I should have said that all the cards are white. Very even on both sides. It's not a human figure."

Red: "A mountain, glowing in the sunset" D C F Mountain.
 "And if that's a mountain, then this
 (lateral) is a rippling lake, with cur-
 rents flowing in" D C F Lake O-
 Card reversed. Central green: "Like a
 hare standing there, but the eye is too
 big and the colour is not right" D F+ A

Scoring.

Responses: 29, 10 of which are naming colours.

W: 13 (-10 naming colours)	M: 8(4-)	H: 7 (3-)
D: 15	F: 7(3-)	Hd: 2 (1-)
Dsd: 1	FC: 1	A: 2
	CF: 2	Ad: 0
	C: 11(10 named)	Plant: 1(-)
		Obj: 2(-)
F+ : 57%		Orn: 1
A: 7% (H: 31%; c: 34%)		Lake: 2
O: 27% ±(omitting naming colour)		Mountain: 2
Erfassungstypus: dW - D		Colour: 10
Succession: rigid.		

The tendency to name colour was not found to any such degree in our series. Only six out of the 460 responses obtained (1.3%) were of this specific type of primary C, while 14 of the patients (77%) showed no such tendency. On the other hand a schizophrenic examined by the writer who was a line-engraver to trade, gave 7 (21%) such primary C responses. From the present study therefore, it does not seem that this type of response can be regarded as typical of epilepsy. A similar criticism can be made of Rorschach's statement that epileptics give numerous pure C responses, for even when F(C) responses were scored along with the primary C responses, the mean C was only $1.4 \pm .24$. This is not unduly high and yet it compares favourably with Rorschach's mean of 1.5. Further, Rorschach states that a great number of CF and FC responses are found in epileptics. Our figures for both these factors were $1.1 \pm .01$, whereas Rorschach gives a mean CF of 2.5 and an FC response of 1.5. Rorschach's total C was 5.5, which is considerably higher than our mean of 3.82. It must be remembered, however, that Rorschach states that there is a direct ratio between C and the degree of dementia. His mean total C for early dementia is 8.0, with a range of 4.5 to 11.5. There is no means of telling whether our patients were of an even later dementia, that is,

even less demented, from the clinical point of view, than Rorschach's, but it may be that this fact accounted for our lower percentage of Colour responses.

Erlebnistypus: There is, according to Rorschach, a direct proportion between M and C - much M, much C; little M, little C. If we add up the total C responses in those cases which show no movement responses, we obtain the figure of 16.5, and if the total C responses of those who give M responses is summed, we obtain the figure of 49.5, which amply bears out Rorschach's finding. "The epileptic may possibly show numerous introversive tendencies, but the extratensive are always in the majority." The mean Erlebnistypus of our series is 3.8 C: 1.6 M, which is in agreement with Rorschach's results, but when we examine the 9 individual cases who gave M responses, 5 only were in agreement with them.

Animal Responses - A%.

Rorschach states that epileptics produce a small animal percentage - much smaller than would be expected from their degree of dementia. His mean A% is 42.5, with a range of 35-50%. The mean of our series is 26.2, with a range of 22-30%. Unlike the C responses, our results for A% agree more closely with those given by Rorschach for early dementia (Frühdementie) for

which Rorschach gives a range of 20-35%, and a mean of 27.5. Rorschach gives as an explanation for the lack of animal stereotypy, the fact that "epileptics come under the heading neither of animal nor human detail stereotypy, but rather their responses vary from case to case in spite of a distinct perseveration, which is an epileptic trait." This we found most characteristic of our cases. The following is a remarkable record in this respect, for 12 (66%) of the 18 responses show landscape stereotypy:

- CARD I. 1. A loch.
- CARD II. 2. The water-works at Dunoon.
3. A burn running through a farm.
- CARD III. 4. This is the castle hill where they used to
hang people for stealing.
5. A butterfly.
6. A bat.
7. A rabbit in a snare.
- CARD IV. 8. Branches of a drooping willow tree.
9. An animal's seed.
- CARD V. 10. A monument on the top of a hill.
11. A river running between hills.
- CARD VI. 12. Loch Luskin with a burn running between hills.
- CARD VII. 13. The coast of the Clyde.
14. Largs and Wemyss Bay.
- CARD VIII. 15. Two lambs climbing a hill.
16. The bowling green with Mary Street running up
to it.

CARD IX. 17. A road running between fields at Kilbride farm.

18. The seashore with sea water.

CARD X. 19. A bridge over a river.

Another case gave 21 responses, in which there were only four ideas: thus the response 'monument' occurred 10 times: 'hill' four times: 'fish' four times: and 'tree' three times. Four other cases were remarkable because of their anatomical stereotypy: one case was preoccupied with religion: another with domestic implements: and so on. The low percentage of animal responses in our series is probably the result of an even greater tendency to indulge in stereotypy of a type other than animal or human detail.

Original Responses - 0%.

For this factor, also, our results are somewhat lower than those of Rorschach, our mean being 22.6, as against Rorschach's 30; our range being 18-26, and his 35-50. Here again, this factor seems to vary directly with the degree of dementia, for Rorschach's early dementias have a mean of 35, with a range of 40-50, and if we assume that our cases show later dementia than his, the smallness of our mean can be understood. It must be confessed, however, that in nearly all the cases of psychosis

which the writer has examined by means of the Rorschach test, a slightly lower 0 percentage than that given by Rorschach has been found.

Whole Responses - W%.

The mean W response of our cases was found to be 2.71, while the range was from 2 - 3.5. Six patients (33%) gave no W responses, while 9 (50%) gave three or more. Rorschach reports an average of 4-7, which is much higher than the average shown in our series. He also says (p.40) that "epileptics give numerous dW responses"; but this was not found to be the case in our patients, as the mean was 0.22, and 14 (76%) of our cases gave no dW responses at all. While no direct explanation can be given for the discrepancy between our results and those of Rorschach with regard to this factor, it might be mentioned that some investigators are finding that their results for W responses do not tally with Rorschach's. In a personal communication, Dr. S.J. Beck, informed the writer that he was considering a critical review of the scoring of this factor.

Erfassungstypus.

Here there is disagreement only in as far as Rorschach finds dW where we find W. He gives no figures for Dr, but our average of 3.5 [†].54 Dr agrees with Rorschach's finding that Dr responses

occur frequently. There is a marked disagreement with regard to the Ds responses, for Rorschach claims (p.42) that "Ds responses of $1.6 \pm .25$, as we found in our patients, is distinctly above the average and it will be noted that 8 (44%) of our cases gave a great excess of Ds responses. Rorschach further states that "Ds responses in epileptics usually become CF or FC", in that the epileptic does not interpret the white space, but names it as a colour. This tendency was not found among our cases, which would account for our high Ds response total, and partly for our low colour response total.

Finally, with regard to Do responses, only two of our cases have a response of this type, and the mean was found to be .01. Rorschach makes no mention of Do responses in epileptics, and it is assumed that he also found a negligible number.

Other Test Factors:

Response Total - R. For our series of cases, the mean response total was 25.6 ± 1.5 , with a range of 21.5 - 30. Rorschach does not use this factor as a diagnostic measure beyond mentioning that epileptics tend to give above the average number of responses (p.21). Among normals the incidence is stated to be 15-30 "rarely fewer than 15, often more than 30", so that the mean R for normals might be taken as 22.5. Our results, there-

fore, agree with Rorschach's in that epileptics give a higher response total than the normal individual. The high average of responses is even more evident when we consider the degree of dementia of these patients. The long-continued and monotonous asylum life would tend to restrict their range of interest and powers of association, and we should expect them to give a much lower response total than the normal individual.

Human and Human Detail Responses - H, Hd: These factors are mentioned briefly by Rorschach (p.51) who says that "epileptics see more whole human figures than bodily details"; that is, the mean H should be greater than the mean Hd. Table XV shows that the mean H response was $3.2 \pm .55$, while the mean Hd was $2.3 \pm .32$. The difference between the two means is $.9 \pm .61$, showing that, statistically, the mean H cannot be regarded as reliably higher than the mean Hd. Still, our results show a tendency to agree with Rorschach's.

Anatomical Responses - At: On page 48 of 'Psychodiagnostik' we read: "Epileptoids interpret anatomical details throughout." Four of our cases (22%) gave a marked excess of anatomical details, which are taken by Rorschach to signify, in non-medical people, hypochondriacal brooding or morbidity. The mean anatomical response was $1 \pm .32$, with a range of 0-2. In those

records with no anatomical responses there was found other evidence of morbidity. Thus, sadistic or morbid trends were shown in responses such as:-

CARD I. A woman's body with the hand cut off.

CARD II. Thumbs and hand with a hole cut in it. Two horns crushed together.

CARD III. The red makes you think of blood, and that makes you wonder.

CARD V. A man lying dead on the street.

CARD VII. Black crows drowned in the sea.

CARD X. A man with a stick going to thrash everyone.

Ideas of death are common: tombs, monuments, coffins, etc. are frequently interpreted. From our series of cases, it would seem that Rorschach has not sufficiently emphasised the morbid content of the epileptic's responses.

Confabulation and Perseveration: From our results, it would seem that these are phenomena which occur in almost all epileptics. The illustrative case given in the appendix shows both of these characteristically. Another characteristic which Rorschach mentions, is the thoroughness with which the epileptic makes his responses. They point out the symmetry with painful exactness, and they are careful to indicate the exact part of the card which they are interpreting, even though the examiner

does not ask them to do so. Precision responses are numerous, as will also be seen by the illustrative case. Rorschach makes no mention of this, but the writer considers it important enough to be included in the diagnostic elements.

Summary of the Comparison of Results with Rorschach's Norms.

Form Responses: These showed a close agreement with Rorschach's norms.

Movement Responses: The mean and range of M responses agreed closely with those given by Rorschach. His assertions that the more less clearly-perceived form responses, the more movement responses, held good. Our patients did not match their movements with those seen in the cards, but tended to apperceive first form and then movement.

Colour Responses: There is a close agreement between Rorschach's C and FC responses and ours, but his total C and CF were considerably higher. This was accounted for by the fact that our patients did not tend to name colour, and by the fact that our cases were probably less demented than his.

Erlebnistypus: Here we were in agreement with Rorschach in that we found a direct proportion between M and C, and a marked tendency to extraversion.

Animal Responses: Rorschach found a small animal percentage to be characteristic of epilepsy. Our percentage was even lower than Rorschach's, which was probably due to an even greater tendency on the part of our patients to indulge in a stereotypy of a type other than animal or human detail.

Original Responses: This is another factor which varies directly with the degree of dementia, and therefore our mean was smaller than that of Rorschach.

Mode of Apperception: Our results disagreed with those of Rorschach in that we obtained a lower whole response mean, and practically no DW responses. Other investigators have found themselves in disagreement with regard to W responses. The tendency for Ds responses in epileptics to become CF or FC was not found. Otherwise, our Erlebnistypus resembled that found by Rorschach.

Other Test Factors: Our results accorded with Rorschach's in that epileptics give a higher response total than the normal individual, and that human figures are more often seen than bodily details. Anatomical details, sadistic and morbid trends, and ideas of death were common in our series, and it would seem that Rorschach did not sufficiently emphasise the morbid content of the epileptic responses. Confabulation and

perseveration were found to occur much as Rorschach showed, while in our series precision responses were numerous enough to be considered a diagnostic element.

Criteria for the Diagnosis of Epilepsy by means of the Rorschach Test.

We are now in the position to lay down from our results certain criteria for the diagnosis of epilepsy by means of the Rorschach Test. It should be remembered, however, that these criteria can apply only to Rorschach's "Spätdezenten", that is, to those subjects only who have shown dementia late in life, and who are therefore less demented than many epileptics found in mental hospitals. The following is a table showing the range to be expected for each test factor:

FACTOR:

Response Total (R)	20-30
Whole Response (W)	2-4
Rarely Perceived Details (Dr)	2-5
White Space Details (Ds)	1-2.5
Form Responses (F+)	50-60
Total Colour Responses (C)	2-5.5 - Increases with dementia
C greater than CF or FC	

Movement Responses (M) 1-2.5

Human greater than Human Details

Anatomical Responses above average and a pronounced preoccupation with sadistic and morbid thoughts.

Animal Response percentage low20-30

Original Response (O) percentage ... 18-26 - Increases with dementia

Erlebnistypus - Extratensive

Succession - Loose

Erfassungstypus - dW or W, D, Dr, and perhaps Ds.

Presence of confabulation, precision and perseveration, and stereotypy of a type other than A and Hd.

The Epileptic Personality as shown by the Rorschach Test.

Finally we must examine the records obtained by the Rorschach Test to see whether they reflect the characteristics of the epileptic personality as described by the clinicians.

The records show that the epileptic has an abhorrence for fantasy and that there is a stunting and crippling of the psyche: he tends towards stereotyped living and mental incapacitation; there is in fact an immolation of the capacity for richness of psyche experience. He lacks the ability to bring the details of a situation into a whole; he is interested, to a lesser degree than normal, in the concrete and to hand and is apt to waste his time over the trivial and unnecessary, to the point of

fussiness. He lacks the capacity to realise what is obvious and, thinking that he has cleverly found something new and original, he overemphasises the obvious with painful thoroughness. Ideation is slow and ponderous but having once grasped the idea he is prone to make the most of it. He lacks the capacity for concentration has ill-formed engrammes and vague memory pictures. That his memory is faulty is shown by the failure of more complex and subtle association processes, but his vanity will not allow him to confess his memory defect and he compensates for it by confabulation. His intellectual faculties are those of a child but he differs from the latter in that he is conscious of his intellectual inferiority and attempts to compensate for it by such devices as an avoidance of the common modes of thought, confabulation, boasting, precision and perseveration to interpretations which he thinks clever. This leads to verbosity and exaggerations.

He is at war with his environment, with things as he finds them, and with the established order of things. Thus we would expect impulsive behaviour and maliciousness at times. There is a distinct tendency to sadism, brutality and a powerful interest in acts of violence, in death, and in the morbid. In his sex life he is interested in the perverse and violent, but

on the other hand he is of the feminine passive reaction type. He is intensely interested in his own body, in his own possessions and in what immediately concerns him. Hypochondriacal brooding of a particularly narcissistic type is characteristic of the epileptics.

In mood we find a preponderance of the primitive, impulsive, unstable, egocentric type of affect, which is balanced neither by a capacity to engage in things of the spirit nor by the necessary fluid affectivity which sets up adaptability of the affective life. The epileptic lacks in short an affective rapprochement with his environment; he does not strive to restrain his egocentricity in accordance with the need to adapt himself to his surroundings. Thus we find that much of the epileptic's thought and behaviour is determined by his emotional tone; if his emotions were aroused, we should expect delusions of persecution.

The above agrees closely with the cardinal points of the epileptic personality as described by the clinicians, from which we might conclude that the Rorschach Test is a sufficiently delicate instrument to probe the personality of the patient examined, and give a picture which is, on the whole, substantiated by the clinical findings.

A P P E N D I X.

A Summary of Three Case Records.

-----oO-----

1. The first case concerns the...
...of the...
...of the...

2. The second case...
...of the...
...of the...

3. The third case...
...of the...
...of the...

A P P E N D I XEXAMPLE OF RESPONSE RECORD GIVEN BY AN EPILEPTIC.

- CARD I.
1. (Laughs). "I can't get the conception of it at all. The centre looks like a human being, going up to (I can't see what the hole in the centre is) the neck as if the head could sit on the arms (upper dark middle) upstretched, though the arms are rather broad ... (Subject imitates movements throughout).
D F+ H (Precision and affect to M)
 2. The under part is like the hips of a human being (lower middle part of card) but it has rather a sharp shape like a half-moon shape
Dr F+ At.
 3. Also it would be like a person sitting on a table with legs outstretched so that one could see the groin.. (sits on table and imitates movement).
D M⁺ Sex O⁺
- CARD II.
4. The two black sections look like the heads of two dogs, as if they were to kiss each other. The head looks as if it were cut in two
D M+ A Sadism
 5. The red has nothing to do with the beasts. Perhaps it's blood or stain marks.....
D C Blood
 6. The centre thing ('tower' in the middle) looks like a clasp or archway holding each animal together. It looks as if it were further away, as if the heads were to the point of it.
D F(C) Arch.
- CARD III.
7. Long-necked person with a very small head as if he were turning his arm round to the back. The turn of the body is very nice but the leg and foot are not so well-formed. There are two
W M H P

of them facing each other (Precision and
(Imitates movements). affect to M)

- CARD IV. 8. The back of a human being - the backbone is very clear and the hips sit in very well. It goes to neck and shoulders but the head is missing. The two arms are certainly cut off..... W F- Hd
(Tendency to Do)
9. One would see it if the person were sitting in a chair dW M+ H
- CARD V. 10. The upper portions of the body cut off under the arms. A stout-built man with too much flesh for the bone holding it. (Head in upper middle) would be the head W F- At. O-
11. These (lower middle hooks) look like tongs or grips.. D F- Obj.
12. (Upper middle protuberances) Looks like a weight - an apple or a brick placed on the outside of the arm stretched out Dr F- Obj.
- CARD VI. 13. A human being halved in two. You can see the arms and the legs stretched out. This (dark centre line) would be the backbone. It's rather deep between the hip and the leg, or the half leg..... W F- At. O-
(Affect to Hd & Anat)
- CARD VII. 14. The lower portion (lower tier) is like the lower portion of the body. The hip take a half-moon turn there and the bone of the hip is quite clear D F- At.
15. A beast (entire lateral) with a hat on, one can see its eye and mouth quite clearly. D F+ A

16. If (middle tier) these were joined together it would look like a man shaking his fist..... D M H
- CARD VIII. 17. The back-side of a human being - (lower pink and orange) would be the hips and the red would be the portion of the body with the bowels D C F- At.
- The heavy green portion is feeding the head, as it were. I have felt it on the head many times..... Affect to C
The light blue in the centre is the portion between the shoulders and the bowels.
18. The two sides (lateral pink) are like beasts. You can see the fore-leg and the wee bit tails. A rat or a guinea-pig D F⁺ A P
- CARD IX. 19. The back of a broad person. The hips would be the green portion. You can see the backbone well. (medial line). It all looks as if you could close it together.. W F- O- (Affect to At)
- CARD X. 20. There are too many colours in this - it makes it too awkward. It doesn't look like a human being at all W C Colour.

Scoring.Response Total: 20.

W: 6	F+: 4	H: 5	A %: 15
dW: 1	F-: 7	Hd: 1	F+%: 36
D: 11	C: 2	At: 5	O%: 20 (3-, 1±)
Dr: 2	CF: 1	A: 3	Erlebnistypus: 4.5 C: 5M
Dsd: 0	FC: 0	Ad: 0	Erfassungstypus: D- W- Dr
	F(C): 1	Sex: 1	Succession: loose.
	M: 5	Obj: 2	Precision: Confabulation.
		Arch: 1	Perseveration: Sadism.
		Blood: 1	
		Colour: 1	

EXAMPLE OF RESPONSE RECORD GIVEN BY A PROBLEM CHILD.Case VII.

CARD I.	1.	Butterfly. (upper half of picture)	D F- A
CARD II.	2.	Two men with wild faces. (whole picture)	W M+H O+
CARD III.	3.	Two birds (large dark parts at side)	D F A
	4.	A butterfly (red in middle)	D F+ A P
	5.	A nest (dark part in lower middle)	D F(C) O ₃ O-
CARD IV.	6.	Two boots (large prominences in lower part)	W F+ O-
	7.	A butterfly (whole picture)	W F+ A
CARD V.	8.	Butterfly (whole picture)	W F+ A
	9.	Head of a rabbit ("Head" in upper middle)	D F+ Ad
	10.	Two legs at the sides ("legs" at sides)	D F- Hd
CARD VI.	11.	Two people sitting at each side putting out their hands. (small protruding detail upper sides)	D M- H O-
CARD VII.	12.	Two mens' faces (middle tier)	D F+ Hd
CARD VIII.	13.	Two fishes at each side swimm- ing (pink at sides)	D F+ A P.
	14.	A butterfly (blue middle)	D F+ A

CARD IX.	15.	A lady or a man (middle green)	D	F-	H
	16.	A butterfly (upper brown)	D	F+	A
CARD X.	17.	Long legs thest two things have (blue upper side)	D	F-	A
	18.	Two worms (green lower centre)	D	F+	A

Scoring.

Response Total: 18.

W:	3	F+:	10	H:	2	A%:	50
D:	15	F-:	6	Hd:	2	F+ %:	62
Dr:	0	C:	0	A:	9	O%:	17 (2-,1)
Ds:	0	CF:	0	Ad:	2	Erlebnistypus:	0.5C: 2M
		FC:	0	Oj:	2	Erfassungstypus:	W. D.
		F(c):	1			Succession:	Loose.
		M	2				

EXAMPLE OF RESPONSE RECORD GIVEN BY A NORMAL CHILD.Case XIV.

CARD I	1. Vase (darker middle)	D	F-	Oj	O-
	2. Man's face ("Head" of upper lateral part).	D	F+	Hd	
	3. Feet (Dr in lower lateral part)	Dr	F-	Hd	
	4. Hands (Dr in lower lateral part)	Dr	F-	Hd	
CARD II.	5. Hands of dogs (upper lateral part of black).	D	F+	Ad	
	6. Rabbit - ears (upper red)	D	F+	A	
	7. Big flower - with stem cut in halves (lower red)	D	CF+	Bo	O+
	8. Top of Indian building (upper middle)	D	F+	Ar	
CARD III.	9. Little girls putting legs up against a wall (upper red)	D	M+	H	O+
	10. Butterfly (middle red)	D	F+	A	P
	11. Twigs (lower lateral black)	D	F+	Bo	
	12. Indian mummies (entire lateral black)	W	CF+	H	O+
	13. Stones (lower middle black)	D	F-	O-	
	14. Garden gate (Ds in lower middle black)	Dsd	F-	Oj	O-
CARD IV.	15. Ears of dog (upper lateral hoods)	D	F-	Ad	
	16. Peacock feather (upper middle)	D	F(c)	Ad	O-
	17. Frock - and feet of princess of Egypt (lower middle)	D	F-	Hd	O-

- | | | | | | |
|------------|---|----|------|-----|----|
| | 18. Lady - lying on a couch (upper part of lower lateral) | D | M- | H | |
| | 19. Little girls speaking (small lateral protuberances) | D | M- | H | |
| CARD V. | 20. Leg of ostrich ("legs" at side) | D | F+ | Ad | |
| | 21. Legs and part of trousers of a boy (lower "legs") | D | F+ | Hd | |
| | 22. Pale part looks like wig of a judge (upper middle) | D | F(c) | Hd | O- |
| | 23. Ears of a rabbit (upper "ears") | D | F+ | Ad | |
| CARD VI. | 24. Lamp-post (darker middle and upper) | D | F+ | Oj | |
| | 25. Bones for a dog (lower "arm") | D | F- | Ad | O- |
| | 26. Statues (upper lateral protuberance) | D | F- | Oj | |
| | 27. Two people - waving to someone from a boat (lower middle detains) | D | M- | H | |
| CARD VII. | 28. Fluffy fans (upper tail) | D | F+ | Oj | |
| | 29. Mummy faces (middle tier) | D | F+ | Hd | |
| | 30. House - covered with snow - Window (darker middle of lower tier) | Dr | F(c) | Ar | |
| | 31. Trees - little bushes (lighter part of lower tier) | D | F(c) | Bo | |
| | 32. Lady's face (upper tier) | D | F+ | Hd | |
| CARD VIII. | 33. Mice (pink lateral) | D | F+ | A | P |
| | 34. Two patches of blue sky (middle blue) | D | C | Sky | |

	35. Body of fox (lateral part of grey)	Dr F- Hd
	36. Rose coloured clouds (middle pink)	D C Clouds O-
	37. Old-fashioned lady in a garden (lateral protuberance of orange)	D C+ H
CARD IX.	38. Magician - with legs (brown)	D F+ H
	39. Eyes of an animal (grey orange)	Dsd F+ Hd
	40. Fingers (lower edge of green)	D F+ Hd
	41. Coloured design (middle "vase")	D FC Design
	42. Thumb (edge of pink)	Dr F- Hd
CARD X.	43. Part of a snake (lower green)	Do F- A
	44. Little girl in week-day frock (lateral grey)	D FC H O-
	45. Cat (upper green)	D F+ A
	46. Pair of earrings on a card - wait- ing to be sold (middle orange)	Dsd CF Oj O-
	47. Snout of a pig (part of middle grey)	D F+ Ad
	48. Pear (middle blue)	D F+ Bo

Scoring.

W:	1	F+:	21	H:	7	A%:	10
dW:	0	F-:	12	Hd:	12	F+%:	64
D:	38	C:	3	A:	4	O%:	25 (3+,9-)
Dr:	5	CF:	2	Ad:	7	Erlebnistypus:	9.5 C:4M
Ds:	3	FC:	2	Oj:	7	Erfassungstypus:	D,Dr,Ds.
Do:	1	F(c):	4	Bo:	4	Succession:	regular
		M:	4	Ar:	2		
				Sky:	1		
				Clouds:	1		
				Design:	1		

SUMMARY OF TEST FACTORS.

CASE	MENTAL AGE.	R.	W.	D.	Dr	Ds.	TOTAL							A9	O%	H	Hd	Λ
							F ₉	c	c	CF	FC	F(c)	M.					
1.	7.2	31	2	26	1	2	55	3.5	1	0	1	2	1	✓	49	25	0	3
2.	7.3	19	0	19	0	0	78	5	3	0	0	1	1	✓	25	15	6	1
3.	8.0	40	3	29	3	3	64	8.5	3	2	1	6	6		20	22	8	12
4.	8.3	45	2	26	1	2	69	5.5	2	0	2	2	3	✓	36	9	1	2
5.	9.0	15	4	11	0	0	66	2	0	1	2	0	3	✓	26	26	2	0
6.	9.1	15	3	11	0	1	73	0	0	0	0	0	0	✓	60	13	5	1
7.	9.5	27	2	20	0	4	57	4.5	3	0	0	0	0	✓	37	7	3	1
8.	9.8	20	2	17	1	0	59	1	0	0	0	2	0	✓	20	10	0	0
9.	9.9	48	0	40	9	1	64	4.5	1	0	0	6	2		10	12	0	2
10.	10.0	21	4	16	1	1	92	2	0	1	1	2	7		43	24	8	4
11.	10.2	36	2	25	2	2	67	3	0	1	2	2	0	✓	44	5	9	2
12.	10.4	44	5	31	2	5	51	7.5	2	2	2	3	0	✓	27	25	4	2
13.	10.6	71	4	44	20	1	54	2.5	0	1	2	2	0	✓	57	5	3	16
14.	10.8	48	1	40	5	3	64	9.5	3	2	3	4	4	✓	10	25	7	12
15.	11.0	58	1	49	6	2	43	6.5	0	4	2	5	6		12	14	9	11
16.	11.2	52	2	39	8	3	60	7.5	2	2	3	5	2		19	23	5	15
17.	11.3	25	1	23	1	0	60	10.5	0	0	2	1	1	✓	36	25	7	2
18.	11.5	68	0	53	8	7	66	10	4	1	3	7	2		10	15	22	13
19.	11.5	45	4	35	3	2	68	5.5	1	0	5	2	3	✓	35	9	5	3
20.	11.6	39	0	35	1	3	83	6	2	1	2	3	7		31	43	3	10
21.	12.6	80	2	53	20	5	60	3	1	0	4	3	6		18	9	6	3
22.	14.5	27	4	20	2	1	45	7	1	2	3	6	2		10	57	0	4
MEAN		40	2.0	32.0	3.8	2.2	64.0	5.6	1.4	1.14	2.0	3.28	2.50		29.0	19.0	5.0	5.0
PROBABLE ERROR of MEAN		4.30	.351	2.76	.804	.426	1.82	.665	.162	.168	.167	.313	.61		2.08	1.74	.685	.72

P R O B L E M G R O U P

S U M M A R Y O F T E S T F A C T O R S.

CASE	R.	W	D	D _r	D _s	TOTAL							A%	O%	H	Hd
						Ft%	C	CF	FC	F(c)	M	C				
1. 6	27	0	23	1	3	55	4	1	1	3	0	9	22	11	9	4
2. 6.3	32	2	26	3	1	61	1	4	0	4	3	7.5	24	34	5	1
3. 6.6	24	4	19	1	0	50	3	0	2	0	0	5.5	71	9	1	0
4. 6.8	21	5	12	3	1	41	2	3	1	2	0	8.0	24	33	0	3
5. 7.5	22	3	18	1	0	83	0	0	0	1	4	0.5	41	23	7	0
6. 7.7	32	1	25	6	0	46	4	2	1	2	4	11.5	9	28	0	0
7. 8.3	18	3	15	0	0	82	0	0	0	1	2	0.5	50	17	2	3
8. 8.4	24	7	12	5	0	55	2	0	2	0	2	4.0	42	12	9	1
9. 8.5	22	3	16	1	2	39	0	0	0	2	0	1.0	36	27	2	2
10. 8.7	24	1	18	1	4	55	0	0	1	4	0	3	8	13	4	4
11. 9.2	24	2	20	1	1	77	0	1	0	0	1	1	46	29	4	0
12. 9.6	22	8	13	1	0	80	0	5	0	7	2	8.5	46	23	4	1
13. 9.8	37	1	16	6	14	57	0	2	1	3	1	4.0	27	24	1	3
14. 11.7	31	4	13	3	11	57	0	0	0	0	0	0	7	23	1	4
15. 12.4	10	3	7	0	0	80	0	1	0	0	0	1	70	0	0	2
16. 12.5	19	1	15	2	1	67	0	0	2	2	0	2	68	11	1	0
17. 12.6	18	1	14	3	0	69	1	4	2	7	1	11.0	45	19	1	2
18. 12.6	48	5	36	5	2	60	0	0	0	0	3	0	28	22	2	2
19. 13.0	23	2	19	2	0	52	0	1	1	2	0	2.5	30	33	0	1
20. 13.3	36	6	27	2	1	73	0	0	0	2	5	1	50	29	7	0
21. 15.6	14	4	10	4	6	50	0	0	0	0	0	0	17	14	4	6
22. 16.9	62	7	43	8	4	73	2	0	2	2	5	5	25	16	6	6
MEAN.	27.3	3.3	19.1	2.6	2.3	61.3	.785	1.08	.63	1.91	1.50	3.1	36.6	27.3	3.0	2.0
STANDARD ERROR OF MEAN.	1.28	1.42	1.15	.317	.512	.266	.163	.213	.02	.286	.249	.458	2.16	1.07	.495	.23

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