ON THE VALUE OF THE RORSCHACH TEST.

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MY aim in abstracting the material for this article from experiments with upwards of 350 subjects has been to offer a few additions to the deductions it is possible to make from the Rorschach test, and to criticize and evaluate its general aims. The number of subjects studied approached that from which Rorschach derived the conclusions embodied in his monograph *Psychodiagnostik*. Among these is a group of 100 normals, the investigation of which should afford an interesting combination with the findings obtained by P. E. Vernon from an equal number of similar subjects.

DESCRIPTION OF THE TEST.

The test consists in noting the responses of the subject to ten accidental shapes produced by ink-blots, some black and white, some coloured. The mode of apperception, i.e., the relative preference of the subject for answers describing the whole, a detail or a small detail of the blots is noted. This factor, known as the *Erfassungstypus*, provides information as to the type of intelligence; for instance, a predominance of whole over detail answers indicates a theoretical and abstract mentality; an accentuation of small detail answers reveals an over-meticulous and fussy personality. Answers to whole blots, to details and to small details are referred to as *G*, *D* and *Dd* answers respectively. Other varieties of answer classified according to the area of the blot interpreted are the oligophrene (*Do*) and the *Zwischendetail* (*Dzw*) responses. The former are those where the subject merely interprets a part where normally a whole would be described, e.g., a head or a leg when the normal subject would describe a whole body. Answers of this type are indicative of retardation of association due to depression or mental defect. The *Dzw* answers are those where, instead of a dark area being interpreted in relation to a white background, the reverse occurs. The responses represent a negative tendency, the manifestation of which depends on the directions of the subject's affectivity, e.g., in extratensives* they represent pugnacity and obstinacy, and in introversives self-mistrust.

* See later.

https://doi.org/10.1192/bjp.81.335.848 Published online by Cambridge University Press

Answers of a variety called secondary whole answers exist. The symbol for them is *DG*, since they are whole answers derived from a detail. *DG* confabulatory answers are those where, after following the interpretation of a detail, the subject assumes it to be the component of a whole, and describes the whole blot accordingly. *DG* combinatory answers are those where two or more details are similarly utilized. Secondary whole answers derived from one detail show, as a rule, a poor coincidence with considerations of form. Derived largely by confabulation, they are found associated with affective lability, as in maniacal conditions, and in subjects where associative data are limited, as in mental defect. The combinatory answers, involving the utilization of more associative connections, are indicative of imaginative propensities.

The order of interpretation, i.e., the degree to which the subject adheres to the optimal sequence of offering first responses to the whole blot, then to a detail and next to a small detail is noted. This factor is called the *Sukzession*. It throws light on the powers of attention and association. Five varieties exist. These are the strictly ordered, where the above-mentioned sequence is adhered to in every table ; the optimally ordered, where it applies as a general rule ; the loose, where the method of interpretation is irregular ; very loose, an advanced degree of the former condition ; and reversed, where small details are offered first, and whole answers last.

Possibly the most important fact to be elicited is the extent to which the answers are stimulated by considerations of form, colour or movement. The first-named are those where form alone is responsible for evoking the answer. Colour answers, referred to in the test as *Farbantworten*, or *Fb* answers, are of three varieties, *FFb*, *FbF* and primary *Fb*, depending on the degree of dependence on form. The colour answers are an index of externally-directed affectivity, the *FbF* and primary *Fb* varieties representing egocentric and impulsive tendencies. The movement or kinæsthetic (*B*) answers are those where movement is of instant, primary importance in determining the response. They indicate introversive trends and " inner creativity ". The colour and movement answers determine, in their varying relative incidence, the different personality types, as will be explained shortly.

Special mention must be made of the chiaroscuro (*Ch*) answers, which are those where the grey shading of the pictures determines the answer from the standpoint of colour. These, according to Rorschach, are indicative of " an anxious cautious unfree " type of affectivity. My experience leads me to believe that these answers have, in many cases, a more special significance. In this paper I merely deal with the incidence of subvarieties defined according to the criteria laid down for the *Fb* answers.

Each answer can also be further classified, firstly as to degree of originality. The usual symbolism is to describe as original (*O*) answers, those given by no more than 1 in 100 normal subjects. Vulgar (*V*) answers, according to the most recent standards, are those offered by more than 1 in 6 normal subjects.

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Other authors grade every answer offered, and express its degree of frequency according to a mathematical scale. The subdivision of responses according to content varies with different authors. The more common practice is to give a special notation to those descriptive of animals, either wholes or parts, and to responses indicative of the human body or its component parts. These answers are called *Tier-* and *Mensch-antworten* respectively. They will be referred to subsequently as *T* and *M* answers, and responses dealing with details of animals or humans as *Td* and *Md*. The animal answers are indicative of stereotypy. A preoccupation with parts of the human body is said to reveal hypochondria.

The final tabulation of the many factors described above is called the psychogram. This includes three percentages. The first of these, the *F*+%, expresses the proportion of form answers which are of good quality, i.e., those most coincident with the shape of the blots. The *O* and *T* percentages express the proportion of these types of answers to the whole number of answers offered by the individual.

The most important single factor is the *Erlebnistypus*, which expresses the experiencing capacity of the individual. There is no word in English reflecting the meaning of the German verb *erleben*. The *Erlebnistypus* does not claim to offer an autobiographical description of the patient's psyche, but to record his potential reactive capacity. Tacitly expressed, it is the relation between the movement (*B*) and colour (*Fb*) elements in the patient's psychogram.* Varying relationships express different types of personality. Five are described, the coarted, the coartative, introversive, extratensive and ambiequal. Each type of personality, defined by the *Erlebnistypus*, has its characteristic psychogram, e.g., the coarted category, which includes the pedantic and affectively sterile, have, according to Rorschach, an *F*% of 90–100, high *T* and *V* scores, and a low *O*%, which factors are indicative of stereotypy. In addition it is claimed that the different mental disorders can be classified with different varieties of *Erlebnistypus*. Melancholia, where there is a complete suppression of the *B* and *Fb* elements, is a coarted condition. Cases of delusional insanity show a preponderance of *B* over *Fb* answers and occupy the introversive category. It should be pointed out that the terms "introversive" and "extratensive," as used by Rorschach, differ to some extent from the corresponding terms of "introverted" and "extraverted" as employed by Jung. The distinction is fully argued by Rorschach. Here it must suffice to say that Rorschach's conception is more of constantly operating tendencies and Jung's of accomplished conditions.

The test investigates the intellectual as well as the emotional life of the individual. For intelligence the *F*+% should be high, but not to the extent present in the coarted, the *O*% should be optimal, i.e., 20–30%, with a high

* For comparison within the *Erlebnistypus* the colour score (ΣFb) is computed mathematically by a single numeral, according to the scheme: $FFb = \frac{1}{2}$, $FbF = 1$, primary $Fb = 1\frac{1}{2}$.

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percentage of plus answers, which usually means those showing the greatest coincidence with the form of the blots, and the *T* and *V* scores should be low.

The foregoing explanatory remarks are to be regarded as no more than the barest outline of the test. By far the best source of reference is Rorschach's original monograph. In English the descriptions of Vernon and MacCalman are the most useful. The previous remarks must seem, tersely stated, to be rather bald, but the literature connected with the derivation of each factor is very extensive, and reference to items mentioned in the bibliography is essential for a full understanding of the test.

The ensuing pages are devoted to the discussion of some of Rorschach's more fundamental claims for his method, and to the enunciation of further knowledge elicited in the present investigation.

The Erlebnistypus.

In studying this, the most important individual factor to be elucidated from the test, one inclines to the view that each kinæsthetic answer has a greater quantitative significance than each colour answer. Certainly Rorschach utilizes the numerical coincidence of these two types of response as indicative of his ambi-equal category, but the fact remains that the *B* answers seem to have a greater propulsive significance in determining the *Erlebnistypus* than the *Fb* answers. My researches lead to the conclusion that an avowed and clinically demonstrated extratensive lability may involve a very variable number of colour answers in subjects presenting close clinical similarities. On the other hand, an appreciable increase in kinæsthetic answers seems always correlated with a far more tangible degree of introversion.

Again, subjects who offer a large number of *Fb* answers and no *B* answers are, while uncommon, of undoubted and appreciable occurrence, but the converse, a large number of *B* answers and no *Fb* answers, is extremely rare, in fact practically non-existent. I obtained no such case as this latter in 100 normal subjects, and there was one example of this phenomenon in 132 epileptic patients. It may be possible later to derive some scale which better indicates ambi-equality than the mere numerical coincidence of the *B* and ΣFb answers. For the present one must be content with saying that each kinæsthetic response seems to possess a greater determining significance than each ΣFb unit.

Some Additions to the Views on the Significance of the *B* Answers.

(1) The *B* answers seem to represent some mental factor necessary for the initiation and maintenance of interpretation, apart from perception pure and simple. They are of meagre development in those who offer purely descriptive answers* and other types of response where a genuine interpretation of the

* These are where the blot is merely described, without any similarities it displays being commented on.

https://doi.org/10.1192/bjp.81.335.848 Published online by Cambridge University Press

tables is not being manifested. Only three normal subjects gave descriptive answers. They gave an average *B* score of ·33, as compared with the normal average of 1·63. The findings from 17 epileptics who proffered descriptive answers were most illuminating. It was a striking fact that, among these patients, while 8 were of the lowest intelligence, expressed both by the Rorschach criteria and clinical diagnosis, the remaining 9 included the highest intelligences encountered in the epileptic group, there being included here 4 subjects under no form of certificate. Yet in both categories the *B* answers were of negligible incidence. Below are expressed the factors of the *Erlebnistypus*, with the main indicators of intelligence, in these two subgroups I and II.

TABLE I.

	Average number *Ds* (descriptive) answers.	Average *F*+%.	Average *O*%.	Average number *B* answers.	Average Σ*Fb* score.
I	6	14·61	30·64— —	·12	·31
II	4	77·53	29·90∓	·22	2·83

Group I is composed entirely of subjects showing gross intellectual impairment, either from oligophrenia, or dementia supervening on epileptic insanity. Were this group alone to be considered it might be inferred that the paucity of *B* answers was always part and parcel of a general intellectual deficiency, but the *F*+% in Group II is 18·86% above the average *F*% estimated over 132 epileptics. It is only 2·995% below the average for normals of 80·825%.

The kinæsthetic elements here are remarkably diminished. The average *B* score over 132 epileptic subjects is ·87. The average in Group I is little more than one-eighth of this, and in Group II it is one-quarter of the average. The *B* score is even more unmistakably diminished in comparison with the normal *B* average of 1·63.

There occurs, in depressed subjects who give descriptive answers, a negligible development of *B* responses. In 20 such persons who gave descriptive answers, the development of kinæsthetic factors is very meagre, being only a quarter of the average *B* score for the normal individual. Below are given the average scores for the relevant factors in these 20 cases.

TABLE II.—*Erlebnis Factors in Depressed Cases giving Descriptive Answers.*

Number of descriptive answers.	Number of answers.	Number of *G*'s.	*F*+%.	*O*%.	*B*.	Σ*Fb*.	Reaction-time.
1·65	18	5·95	81·05	17·61E*	·3	·325	1·37

The effect of an unadapted extratensive preponderance, as evidenced by a high proportion of *FbF* and *Fb* forms, in facilitating simple description, rather than interpretation, of the tables is well known. The figures quoted above

* E indicates equality of + and — forms.

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show that this factor does not operate in this case. A deficiency in associative data can have a similar effect, but such an explanation is not to be offered in the case of Group II of the epileptic subjects, nor with the depressed patients expressed in the immediately foregoing figures, because of the high $F+\%$, and the high $O\%$, which, though not of optimal quality, reveals an associative variability not too vitiated by confabulatory and fantastic elements. One cannot escape the conclusion that the phenomenon is related to the absence of *B* answers. It might be argued that in coartation, where there is a maximal interpretation of F+ forms, there is also an absence of *B* answers. But the coarted are a class who, as well as the defective and those of unadapted emotional lability, tend to give descriptive answers. It is only feasible that when the intrapsychic effort for interpretation is so great it should fail sometimes. In the 20 depressed patients investigated above, 10 were coarted and 8 coartative. We are justified, therefore, in assuming that the kinæsthetic element represents some factor necessary for the initiation of interpretation. So far as its maintenance is concerned, there is evidence that in subjects who give descriptive answers, and in whom the $F+\%$ is high, the total number of responses offered is small, as though the available intrapsychic effort necessary for continuation was diminished. Rorschach laid down that 15–30 answers was an average number for normal subjects. There is abundant evidence that these limits are too wide. Munz's average is 33·3, and my figures for this factor show an almost exact coincidence (33·36). Vernon's figures are also higher than those of Rorschach. The average number of answers in the depressed patients whose responses are quoted above was only 18.

A study of the reaction-time also affords eloquent indications of the difficulty of maintaining interpretation, and of how small is the quantitative expression of interpretation as compared with the degree of effort expended on it. The reaction-time in the depressed group is 1·37 min., and in the second group of epileptics giving descriptive answers no less than 1·64 min., and for the 100 normal subjects 1·026 min.

There is a group of epileptics who proffer what I have called geometric responses. This is a response wherein the sense of position is the only immediate fact which determines the response. One commonly recurring example is where, the whole plate being regarded as the body, the inferior extremities of the blots are called legs and a point in the centre the abdomen. There is a further variety of this type of answer in which the answers are not determined by position, but in which the patient gives some constantly repeated and confabulated interpretation which, however, he invariably places in some fixed position in the tables. It would be difficult to find answers less dependent on the interpretation of form than these. In 12 subjects offering these geometric answers there was not a single *B* response. This, I think, can be regarded as confirmatory evidence that the kinæsthetic factor is of paramount importance in the initiation of form-perception.

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In this connection it is interesting to note Rorschach's statement that, apart from the coarted group, the $F+\%$ rises in proportion with the number of B answers. These two factors were studied for 100 normal subjects with the following results. The Fb and O scores are also included in order to indicate the presence, or otherwise, of signs of coartation.

TABLE III.—*Relation of* B *Answers and* F+% *in Normals.*

$F-\%$.	Number of patients.	B average per person.	ΣFb average per person.	$O\%$ average per person.
95–100	8	·5	·63	11·12++
90–95	4	·25	2·5	18±+
85–90	35	1·4	2·8	26·97±+
80–85	19	1·41	2·65	29·44±
75–80	13	2·83	4·75	25·56E*
70–75	7	3·28	3·28	26·44∓
60–70	10	2·9	2·6	47·85∓
50–60	2	0	1	43·75∓
Below 50	2	·5	1	8∓

It will be seen from the above table that though there is no even equivalent rise in the B and $F+\%$ factors up to the incidence of signs of coartation, percentages of 60 and below are accompanied by a definite and unmistakable paucity of B elements. These results show some variance to those of Rorschach. It would seem that a high development of B answers is not in any sense a necessary accompaniment of the higher $F+$ scores, but the results outlined above do bear out the supposition that a minimal development of B answers is found in association with impoverished powers of form perception.

(2) There is evidence that the B factor is concerned not only in the initiation and continuance of form perception, but that it has also a presiding effect on the maintenance of any co-ordinated mental function.

There is certainly much evidence for the above view in considering the *Erlebnistypus* in different disorders. In the extratensive preponderance which is found in maniacal conditions there is an absence of B answers, accompanied by a complete distractability of attention and a form of thinking not presided over by any aim and determined by *Klang Assoziation*. In schizophrenia, in those subjects whose false beliefs are co-ordinated so that the delusional system has a definite productive behaviourist influence, the number of B answers is far greater than in those patients in whom dissociation is more complete, and the delusions outlandish and disconnected. In those rare cases where there are a great number of B answers and the Fb answers are absent or quite inconsiderable, the patient is dedicated entirely to a fantastic world of his own creation, but it is a continuing and attentive devotion.

(3) There is considerable evidence that the B answers indicate an element

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which, even if not definitely antagonistic to repressive factors, at any rate acts so as to minimize their influence. The facts on which such a view is founded are given below.

The phenomenon of colour shock is held by Rorschach to be a manifestation of repression. This finding is most typically that in which, on beholding a coloured table after a preceding black and white one, there is a cessation in the flow of interpretation, which is only resumed after a varying latent period. The proffering of descriptive answers, by the more intelligent epileptic patients in Group II (Table I), has obvious affinities with the phenomenon of colour shock. These descriptive answers occur practically always at the outset of the investigation, when the tables are first presented to the patient. There is, as in colour shock, a block offered to interpretation. There are the same signs that the phenomenon is not due to a lack of the necessary raw material of interpretation (e.g., a high $F+\%$, and optimally high $O+\%$, etc.). But more important than these merely presumptive indications is the fact that the psychogram factors of colour shock subjects, and this particular group of epileptics who give descriptive answers, show some striking similarities, so close, indeed, that I have come to regard this particular combination of descriptive answers with a high $F+\%$ and a favourable $O\%$, with a long reaction-time and an extratensive *Erlebnistypus* (these epileptic subjects did not reveal the overwhelming preponderance of coarted and coartative signs shown by the depressives who gave *Ds* answers), as indicative of repressive tendencies. It is significant that these epileptics under present consideration were mostly young subjects in their teens, uncertified as to insanity or mental defect, and of the highest intelligence among the whole epileptic group. They were subjects in whom their disease had not revealed its grosser effects in adversely affecting their social adaptiveness, and who possessed sufficient intelligence to appreciate its painful characteristics. The factors which show a similarity, in the colour-shock normals, and in the group of more intelligent epileptics who give descriptive answers, are outlined in Table IV.

TABLE IV.

	$F+\%$.	$O\%$.	*B*.	ΣFFb.	*Dzw*.	ΣCH.	Reaction-time.
Colour-shock normals	80·47	35·13E	0	2·01	4·7	1·17	1·27
Epileptics with *Ds* answers	77·53	29·90∓	·22	2·83	2·5	7·5	1·64

When one considers that the average reaction-time for normals and epileptics* respectively is 1·026 min. and 1·124 min., that the average ΣCH values for the two groups are 1·12 and 1·105, and the average *Dzw* values are 2·12 and 1·1, we see that the two classes of subject show a striking coincidence in the following respects:

(*a*) A negligible development of *B* answers.

(*b*) The same extratensive preponderance in each. (*N.B.*—All the subjects

* Estimated for 100 and 132 subjects respectively.

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demonstrating colour shock proceeded to offer colour answers either in later tables, or after a very evident and disproportionate delay.)

(*c*) A stressing, above the normal, of *Dzw* and ΣCH elements.

(*d*) There was, in each group, the same high $F+\%$ and the same optimally high $O\%$.

(*e*) There was a marked lengthening of the reaction-time in each case.

We have stated that colour shock is due to repression, and outlined its close similarity to the presented phenomena associated with these cases of descriptive answers. The most unmistakable factors common to both of these is a gross diminution of *B* answers. It is, then, reasonable to assume that repression and whatever is represented by the *B* factor tend to be mutually exclusive.

Not only are the kinæsthetic responses practically absent in the subjects mentioned above, but they are also not present in melancholics and the coarted, who show marked repression. Again, in schizophrenia, in the dissociated varieties where the mind has become a divisible and patchwork battleground, where each army of complexes scatters its separate ruin, there is a diminution of *B* answers, whereas in the more systematized varieties, where the effects of sublimation have sidetracked the repressive censorship, there is a rising score of *B* answers.

There is nothing illogical in the view that the *B* factor, representing introversive tendencies, should be absent in repression. Most repressions and obsessive tendencies are the results of an impaired objectivation. It might be argued that it is this impairment of externalization of the libido which essentially constitutes the condition of introversion. But this is a confusion of ætiology and consequence. There are conditions of internal preoccupation which are enforced, and others which are inherent. These latter are those expressed, in the Rorschach test, by the *B* answers. It seems that these have definitely an antagonistic effect to repressive tendencies. It is by no means illogical that the insignia of introversion should oppose repression, for the censorship induced by the latter is, after all, the accretion of social forces and herd requirements—a sort of watch committee of extraversion. It would be a cardinal error to regard repressions and obsessive ideas as essentially introversively toned, merely because these processes are in their genesis secretive and internal.

Diagnosis of Repressive Tendencies.

Consideration of the immediately foregoing facts relating to colour shock and descriptive answer subjects leads us to another sign to be derived from the investigation. Where the reaction-time is considerably above the normal, in subjects with an $F+\%$ of 80 or over, in the absence of coarted tendencies, neurotic tendencies and signs of repression should be inferred, particularly

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where the *Dzw* and (*CH*) elements are emphasized, and where extratensive qualities are accentuated. A reaction-time above the normal by 25% is suspicious, and with a greater increase than this the supposition of neurotic tendencies becomes even more justified.

The Colour Answers (*Fb*).

The average colour score for normals was 1·96 in my group of 100 subjects. Rorschach assessed such a value at $\Sigma\frac{1}{2}$ to $\Sigma 2\frac{1}{2}$. Vernon and Munz's figures are both nearer 4. Such discrepancies as these are data for legitimate criticism of the test, and as such will be referred to later. At present it is proposed to express some reflections on the interpretation of those answers derived from experience of the large number of subjects I have used for this test.

(1) The first point to be raised concerns Rorschach's statement that primary *Fb* answers should not occur in normal individuals. This was not my experience. They do not, however, occur in the absence of *FFb* or *FbF* answers. Oeser mentions a group of subjects with primary *Fb* answers who are not irritable, impulsive or manic. Neither are some of my normal subjects who give primary colour answers, although they are often emotionally labile persons with a tendency to elation.

(2) I am sure that Rorschach's dictum that primary descriptive *Fb* answers (i.e., those in which the colours are named) are nearly specific for epileptics, particularly demented epileptics, is a definite over-statement. I have found them in epileptics, with stable affects, who were good form perceivers, with a high $F+\%$, and who showed no signs of dementia. They occur also in normal subjects and even melancholics, who, apart from these descriptive answers, betray, in their orthodox interpretations, no trace of any responses determined, in any degree, by considerations of colour. The indiscriminate crediting of descriptive colour answers with an *Fb* score of $\Sigma Fb = 1\frac{1}{2}$ is a considerable source of error. In a test which established itself by careful clinical correlations it seems highly unjustifiable to credit profound melancholics with the most marked affective suppression, in none of whose genuine interpretations is there any trace of a colour element with responses indicative of an extreme affective lability. This is not a case of modifying data to fit hypotheses. I question in its entirety the statement that primary descriptive colour answers have the same significance as primary colour answers as a whole. They occur very commonly in subjects whose psychogram is elsewhere unmistakably stamped with evidences of coartation. The descriptive colour answers are very often merely part of a general descriptive, as opposed to interpretative, tendency. The scoring of these descriptive answers should, I think, be dependent to some degree on the general assessment of the patient's psychogram, particularly the $F+\%$ and those factors which depend largely on the same qualities as give rise to the $F+\%$, e.g., the *Erfassungstypus*, *Sukzession*, etc., together

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with the indications of affectivity to be derived from a study of the *Erlebnistypus*. Where the F+% is low, the *Sukzession* loose, and where the indications of an unadapted affectivity, such as a high proportion of *FbF* to *FFb* responses, or a paucity of *B* in relation to colour answers, are present, it is probably justifiable to score these descriptive answers as primary *Fb* answers. In converse cases such a procedure is likely to give too high a ΣFb value. How exactly the method of scoring, in this particular instance, can be modified it is difficult to suggest, but it does seem at present to constitute a source of fallacy.

I propose to deal in another paper with the epileptic response, but it is profitable to mention here the very great discrepancy between the number of colour answers obtained from epileptics by Rorschach and myself. I am inclined to think, bearing in mind his very definite statements as to the incidence of primary descriptive anwers in epileptics, that this type of response was largely responsible for his high colour values. It is of significance that he tested only one-sixth of the number of epileptics employed in the investigation from which the results quoted in this paper were derived. Dr. Morgenthaler, of Berne, who wrote the introduction to Rorschach's book, indicates that his results are largely in agreement with my own.

(3) Before leaving this question of colour answers it is well to mention certain artistic pictorial answers, proffered by cultured persons, which appear occasionally in the course of this investigation. Such a response as that offered to the supero-lateral yellow tinged area of Table IX, "A Turner sunset, orange fading into greenish yellow", might at first sight be thought to fall justifiably into the primary *Fb* category. But I think that this type of answer should be scored as *FbF*, because in subjects familiar with artistic technique, the spatial relationships of colour are at least of equal importance to the nature of the colours themselves, and to them the intensities of colour are expressed by their diffusion in space. In these responses there would surely seem to be a form factor in the relationship of the colours.

It might be argued that such treatment of an individual response is too subjective, but these responses are not common, and in all cases they should be scored only after consideration of the type of other colour answers proffered by the same subject.

The Chiaroscuro Response.

These answers, where the shading acts as a determinant of the colour element in a response, were, though minimally expressed in Rorschach's original monograph, apparently considered of paramount importance by the investigator and his colleague Oberholzer in their paper, "Zur Auswertung des Formdeutversuchs für die Psychoanalyse". One gets the impression, on reading this paper, that the presence of these answers in any degree was held, by these authors, to be significant. These chiaroscuro responses seem

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certainly to have had a higher incidence in my cases. The average figure over the 100 normal subjects, the different types of response being estimated numerically, as recommended by Vernon, on lines analogous to the arithmetic assessment of the true colour answers, was 1·12, as compared with Vernon and Munz's average values of 1·3 and 1·4 respectively. The Swiss pioneers did not specifically recommend the numerical scoring of the different varieties of chiaroscuro response. Vernon proposed this, and I strongly concur in this suggestion, if only on the grounds that there is a remarkable similarity to that of the true colour answers in the distribution of these chiaroscuro responses. It was found that, in the colour answers, the *FFb*, *FbF* and *Fb* responses were distributed in different proportions in normals and epileptics. This peculiarity of relative distribution is also reflected in the chiaroscuro responses. The table below expresses the frequency of the different types of chiaroscuro response:

TABLE V.—*Incidence of the Different Types of Chiaroscuro Responses.*

	Normals (100).	Epileptics (expressed per 100 patients).
F(CH)	157	97
(CH)F	29	37
(CH)	3	18

As in the true colour answers, there is, in epileptics as compared with normals, the same increased proportion of answers as we progress towards those least dependent on consideration of form. This is better expressed in the table below, where is displayed the proportion of the individual types of colour answers to the total of such responses, a similar calculation being made for each type of chiaroscuro response.

TABLE VI.—*Comparative Incidence of Chiaroscuro and* Fb *Answers.*

	Normals.	Epileptics.
FFb	59·4%	42·08%
F(CH)	83·07%	63·78%
FbF	33·6%	34·39%
(CH)F	14·8%	24·49%
Fb	7%	23·53%
(CH)	2·13%	11·73%

Because of this parallelism in the incidence of the different types of colour and chiaroscuro answers, it was considered justifiable to afford to the latter an analogous scoring system.

https://doi.org/10.1192/bjp.81.335.848 Published online by Cambridge University Press

The Original Answers.

Vernon and Beck have pointed out how variable are the types of response classified as original answers when different groups of subjects are examined. Not only this, but the statistics showing the average for normal groups show no coincidence. The relevant available figures are as follows: Rorschach, 0–20 ; Munz, 19·5 ; Löpfe, 25 ; Oeser, 11 ; Vernon, 25 ; the author, 24·73.

Vernon and Meltzer suggest, in place of the enumeration of *O* and *V* percentages, as recommended by Rorschach, some measure incorporating the relative frequency of all the responses offered. Meltzer's *O-P* index is a modification of this nature. He attaches numerical symbols in accordance with each degree of frequency, and claims for his method considerable advantages. In addition to these there is also the fact to be considered that such an index does deal with degrees of originality. Rorschach recommends that answers of the rarest incidence be recorded as " individual " answers, yet he does not make provision for these in the final summary, which he calls the psychogram. Again, it is often difficult to decide whether a particular answer should be scored as an *O* response, when interpretations generically the same but specifically different are offered by different patients to the same part of the blot, as often happens with the *T* and *Td* responses. Sometimes a detail is interpreted as an animal, yet the type described may be so unique, and of a likeness so much more striking than the average, that there is also an element of originality in the answer. Rorschach's statement that responses may be both *O* and *V* answers must be quoted here, but such a method of enumeration seems rather clumsy.

The *O*% in the Hyper-intelligent.

A limiting figure of even 30% of original forms, with a majority of *O*+ scores, may be too low a figure in dealing with really intelligent and cultured persons. Similarly, a limiting figure of F+ = 90%, separating intelligent normals from the stereotyped and the pedantic, may be too low. Normal subjects were discovered in this investigation with *F*+ and *O* percentages over 90 and 30 respectively, who could not be regarded on the one hand as coarted, whether from depressive causes or from pedantry, or, on the other, as persons of an undue associational variability and preoccupied with phantasy. There is absolutely no difficulty in separating such subjects from the melancholics and those of formal, hypercritical preoccupations. They are distinguished by the dilation of the *Erlebnistypus* and the high percentage of *O* — answers. Similarly they can be demarcated from the phantasy lovers and those in whom the stability of the associational processes is impaired by their high *F*+ percentages, and their not too loose *Sukzession*.

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The Vulgar Answers.

These require no further note save that my experience confirms that of Vernon, who followed the practice of Löpfe and Loosli-Usteri, in applying a standard of incidence of 1 in 6, rather than of 1 in 3, as a criterion of what is meant by a *V* answer. A standard of 1 in 3 is so low as to exclude many undoubted manifestations of stereotypy.

Further Indications of Stereotypy (*T* and *M* Responses.)

It is logical to follow consideration of the vulgar answers with a study of other responses which are held to be an index of stereotypy. Under this heading we are dealing primarily with the *T*, or animal answers. For these Rorschach postulates, in normals of average intelligence, a percentage of 35–50, in the less intelligent, the stereotyped and those in a mood of depression, 50–70%, and in the markedly stereotyped and pedantic, 70–100%. The *T*% for the normal group I investigated was 44·964, which shows a close coincidence with the figures for Rorschach's most average subjects. Furthermore, the coarted and coartative gave figures of 60·51% and 54·17% respectively. The first figure is much lower than Rorschach's 70–100%. Here again we are faced with the difficulty of comparing different types of normal subject. More than once in the investigation it seemed that my subjects were of greater potential and more varied intelligence than Rorschach's Bernese *Hausfrauen*. Again, the fact that the majority of my normal subjects were persons who had undergone a training in anatomy and physiology indicates that they would, of necessity, reveal a greater preoccupation with human anatomical details than is usually the case.

There are some interesting points with regard to the *M* answers which arise from my investigation. Rorschach states that in hypochondriacal subjects there is a marked preoccupation with interpretations involving the human body. It should be stated most emphatically that we are dealing here with answers involving parts of the human body rather than with the whole body. Many of the *B* answers have also an *M* designation, for the most common variety of *B* answer is that in which human figures are seen performing different kinds of action. Besides, *B* answers are to be considered at an opposite pole to stereotypy, of which a preoccupation with the human figure answers may be considered a manifestation. Furthermore, an *M* symbol is given to many answers of a type I call confabulated movement and confabulated pictorial responses where, quite negligent of considerations of form, the subject sees human beings performing the most complicated and fantastic movements, or partaking in scenic effects which have no basis in the table proffered. To assess such answers as these as indicative of anatomical preoccupation would be, to say the least, misleading. For these reasons I

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consider that in studying stereotypy and hypochondria, only answers concerned with parts of the human body (*Md*) should be considered.

Additions to the Symbolism of the Test.

(1) *The Incorporation Answer.*

It is essential in the test to give attention to one or two types of answer which I consider of special significance, and to which I have allotted a special designation. These are what I call incorporation (*I*) answers. They are those responses in which different-coloured sections of the table are combined to produce a form answer. I have subdivided these into two sections according as to whether in the first instance black or white or in the second, the other colours, are utilized in producing the responses.

Beck, in dealing with the basic factors in his article on the organization of personality, lays great stress on this compounding of black and white into a form perception, regarding it as a very superior variety of that process of abstraction which, outside the limits of the test, enables the subject to formulate rapidly and efficiently adequate working principles from the multitudinous perceptive data which he meets. Beck encountered this test finding only in his normal subjects of most superior intelligence.

Herewith is submitted the proof of the high intelligence and the wide reactive capabilities of the individuals manifesting this type of answer. Below are given the averages of the relevant psychogram factors in normal subjects proffering these answers. The total number of responses is reduced to 34, in order to compare the results with Rorschach's average *Erfassungstypus* for normal subjects :

Number of answers.	*G.*	*F*—%.	*O*%.	*Dzw.*	Σ*Fb.*	*B.*	Σ*CH.*
34	7	86·69±	31·67	4	3·1	2	3·73

Rorschach's *G* score is 8, but a score of 7 does not materially preclude the richness of the *Erfassungstypus*.

Over four-fifths of the *O* answers were scored as *O*+.

The high *Dzw* and (*CH*) scores must be very significant, indeed Rorschach regards the presence of even a single response of each variety as very significant. In view of the diagnostic significance of the *Dzw* and (*CH*) answers, it is probable that in these incorporation answers we are dealing with not only a high capacity for abstractive organization, but with a type of abstraction so individual in function that its novel perceptions are those formed in opposition to, and in advance of, accepted social principles. The wish-fulfilments of these subjects may be directed to a satisfaction more individual than generic. The slight tendency to looseness and to a reversed sequence in the *Sukzession* is such as often occurs in subjects of an imaginative type. An interesting proof that

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this incorporation phenomenon represents a high power of organization is that the single epileptic subject in which it occurred was of far higher potential intelligence than his fellows, the $F+\%$ being 79·78 (i.e., 19·11% above the epileptic average), the $O\%$ 36·51E, and the B score being 5, a score of considerable significance in view of the inconsiderable development of these answers in epileptics. As in normals, the chiaroscuro and *Dzw* element were accentuated, the former to the extent of 8 responses.

(2) *The Essential Quality* (EQ) *Answers.*

The variety of answers referred to above has not, so far as I know, ever received specific mention. In it is added, to a form perception, a description of certain intrinsic properties. These answers fall into two groups. The first of these seems to have an astereognostic essence. A good example of the type is the answer to Table IV, "It looks heavy". This type of answer includes perceptions of weight and solidity. In general, it deals essentially with three-dimensional properties. The symbol selected for these is *EQa*. These answers slightly resemble chiaroscuro responses, which are to some degree dimensional, though in no sense three-dimensional.

There occurs in subjects giving these types of answer not only a high $F+\%$, but also a high $O+\%$, and a high proportion of G answers, indicating a high power of abstractive synthesis. These subjects are markedly extratensive, with a predominance of *FbF* and *Fb* answers, indicating an egocentric and unadapted affectivity. They also reveal a marked chiaroscuro response, which includes *(CH)F* forms. It seems that their capacity for the formulation of new principles is accompanied by a considerable degree of anxious affect, possibly because these said principles involve an originality antagonistic to accepted standards, and recognized as such by the individual because of his strong extratensive properties. In these answers it is as though the subject has projected his own hesitant and unresolved state by offering interpretations more tangible and solid than those of his fellows.

These *EQa* answers are applied to inanimate objects — the patient who said that Table IV looked heavy said afterwards that he thought it was an old and rusty anchor.

EQe Answers.

The second type of *EQ* answers is offered as an appendage to forms described as animal or human. The amplifying element conveys here some attribute of mien which expresses the essential emotional circumstances in which the animal or human form is reacting. An excellent example is "a weird little goblin's head, derisive and frightened, hiding his fright." Such answers are only given by subjects of higher intelligence and reactive capabilities, as estimated by the F+%, $O+\%$, number of G's, regularity of *Sukzession*, richness of the *Erfassungstypus*, and dilation of the *Erlebnistypus*, etc. The salient

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feature of the psychograms of subjects giving this variety of response is the number of *B* answers. When one considers that the average number of *B* answers given by normal subjects was 1·63, and in this group no less than 4·66, the difference will be seen to be of profound significance.

These *EQe* answers seem closely allied to the *B* responses. In the first place there is the striking parallelism between their occurrence and the *B* score. Again, some of Rorschach's *B* answers approach this type. For instance the interpretation of Table II as "carnival fools" or "clowns" he characterized as a *B* answer because, from statistical reference to patients giving such a type of answer, he was convinced that sensations of movement provided a component part, whether or no that movement was expressed by the subject. This answer is not far removed from those which have been defined as *EQe*, because the table does not show the figures to be provided with anything which could reasonably be mistaken for the customary accoutrements of clowns, and this interpretation must therefore be derived from the intrinsic expressive qualities of the heads depicted. The fact that these answers occur to a preponderating degree in gifted and artistic subjects indicates their possible connection with those representing inner creativity. The table below shows the incidence of these essential quality answers:

TABLE VII.

	Normals.	Epileptics (per 100 subjects).
EQa	28	0
EQe	16	0

ABSTRACT ANSWERS.

Rorschach offers no specific criterion for the definition of these answers, but in the latter part of his book, where he is interpreting psycho-analytically the responses given by a psycho-neurotic patient, he gives the following as an example of this variety: "It looks as though the red thing in the middle would be a power which inhibits the others from meeting together and lets them jump away from each other." In normals there appear answers which suggest an addition to the interpretation of influences affectively derived within the patient. It is not proposed to discuss at any length answers so elusive of definition as these. In actual practice their separation is not very difficult.

In normal subjects the answers are intrinsically, and often intensely, personal. They indicate some individual experience, or outline some personal attitude. In making these interpretations the subject often refers to his dreams. Secondly, they are interpreted affectively, with feelings of pleasure or revulsion. Where an individual experience is specifically indicated, these feelings are even more evident. In contradistinction to this, epileptic abstract

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answers have little autobiographical content. They are delivered with a sense of effort, and without affective demonstrativeness.

Abstract answers, in normal subjects, are usually determined to some extent by the principles governing form perception. They may be later additions to an *F* response. At any rate there is generally a recognition of form elements. (It is of interest, though the subject is deferred in this paper, to note that abstract answers in epileptics are derived more from considerations of colour, by what seems to be a confabulatory process.)

The proffering of abstract answers is associated with—

(1) An accentuation of *B* answers, averaging for these subjects 4, i.e., twice the normal value.

(2) An over-development of chiaroscuro answers—the average ΣCH value is 3·875, i.e., nearly four times the average of 1·1 for the whole normal group. This indicates an over-development of a cautious, unfree type of affect.

(3) A remarkable over-development of answers of a sexual content. (These subjects offer twelve times the average value for these responses.)

In connection with this last finding, it may be said that one can be too precipitate in assessing these sexual answers as too directly significant of sexual preoccupation. In the above case, however, their over-development is remarkable. Furthermore, in these subjects there was also a high incidence of veiled sexual references, expressed in the symbolizations of Jung and Freud. It need hardly be added that these latter remained unassessed, it being considered inadvisable to introduce anything in the nature of psycho-analytical data into a summary, the components of which were enumerated from perceptive data.

It is seen from the above that a bias towards the abstract, in this investigation, is accompanied by a preoccupation with answers of a sexual content, and by the considerable development of anxious affect. It is extremely tempting to theorize on the implications of such a result. It must suffice here to emphasize the unmistakable association of these three tendencies.

Answers of a Sexual Content.

Rorschach stressed the importance of such responses as the above, together with those referring specially to the subject interpreting them, as when parts of the body are described as belonging to the subject describing them. (These latter will, for convenience, be referred to subsequently as ego responses.) Rorschach does not appear ever to have actually enumerated these answers.

To argue that the well-defined occurrence of ego and *S* answers means necessarily the accentuated development of egotistical or sexual tendencies seems completely fallacious. Surely the presence in normal subjects of unusually developed egotistical or sexual tendencies would lead to these being deliberately inhibited as a colouring of the responses. Such repressive

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mechanisms would tend to exclude still further such responses in neurotic and psychasthenic conditions. Many other conditions might be enumerated where such factors would operate.

Again, in less inhibited normals, professional associations might raise the *S* and *R* scores, as in clerics, doctors, nurses, etc.

Answers of the ego and *S* varieties might be expected in inhibited subjects of labile affects, such as in mania or certain cases of dementia. But here also too ready deductions would be fallacious. The offering of this kind of answer is probably influenced far more by the removal of inhibition than by an unusual development of the underlying tendencies. Too much stress can be laid on the enumeration of answers related to tendencies so diffused and side-tracked in their various sublimations and compensations.

The number of answers of a sexual content in the whole normal group was such as to suggest a rigid suppression of such factors, being a ridiculously low figure considering the large percentage who had undergone an anatomical training. Only in the cases of subjects offering abstract responses was the number of sexual answers considered significant, because of the striking over-development of these latter.

The Constancy of the Test Findings.

Vernon, in studying the constancy of the test findings in the results of different investigators, expresses some dissatisfaction at the degree of correlation. Below is appended a comparative table of the findings, for normal subjects, of Rorschach and the present writer:

Table VIII.

	Rorschach.						A. G.					
	A.	*G.*	*D.*	*Dd.*	*Dzw.*	*Do.*	*A.*	*G.*	*D.*	*Dd.*	*Dzw.*	*Do.*
Erfassungstypus	34	8	23	2	1	0	34	9	20½	2½	2	0
F+%	Average intelligence, 70–80 Intelligent, 80–100						80·525%.					
B	2–4						1·63.					
Σ*FB*	½–2½						1·96.					
Σ*CH*	Not available; probably comparatively small						1·12.					
O%	0–20						24·73 (504 plus forms out of 882).					
V	Not available						14·36					
T	Average intelligence, 35–50						44·694.					
Reaction-time	1·5 min.						1·026 min.					

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While several of the factors show, in the two investigations, a close correlation, in certain instances there is a definite diversity. These differences are summarized below. In the present investigation there is—

(*a*) A much more emphatic development of the *Dzw* and ΣCH elements.
(*b*) The $O\%$ is higher than in Rorschach's subjects.
(*c*) There is a more meagre development of *B* answers.
(*d*) The reaction-time is much shorter.

Correlations between different investigations of normal subjects can be vitiated by :

(1) Differences of intelligence.
(2) Differences of personality type.
(3) Other factors.

It is difficult to correct for the first-mentioned source of divergence. Description of the degrees of intelligence associated with percentages of certain factors is not enough. The general social and educational bias of the group under consideration must give widely different meanings to the terms of "average", "high", and "low" intelligence. Rorschach's cases were mostly Bernese householders, Vernon's were Yale undergraduates, and mine nurses. The only hope of adjustment lies in comparison with numerical standards of intelligence, achieved by the same subjects, in the psychometric tests more specifically directed to the study of intelligence. So far Vernon claims only the most moderate correlations with the Binet-Simon scale, when studying those factors in the Rorschach test which indicate intelligence.

The varying percentage of different personality types in the different normal groups is also a source of error. The argument that different personality types must attain to varying degrees of development in the different normal groups, and that differences in the *B* and ΣFb values obtained from whole groups are of no account, omits to observe that Rorschach derived his meaning of the *Erlebnistypus* factors from subjects who gave different *B* and ΣFb averages to those obtained by subsequent workers. Hence, the finer arithmetic implications, though not the general indicative values, are, theoretically at any rate, a source of fallacy when applied to other normal groups. It is such an argument as this that I have employed in proposing a greater significance for the *B* than the *Fb* factor in my group of normals.

Of most paramount consideration, under the heading of other factors, is the question of the subject's occupation. Because of the large percentage of nurses in my normal group it would be utterly fallacious to use the $Md\%$ as a general average figure. This, admittedly, is an extreme case, but where is the perfectly average group of normals to be obtained ? Rorschach's householders reflect too little the reactions of the educated, and Vernon's group of undergraduates cannot be regarded as typical.

The discrepancies referred to above are of more moment when we consider

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those observed by other workers. For instance, Vernon and Munz both find the value of ΣFb to be nearly 4, i.e., twice as much as in my subjects.

One has come to the conclusion that the factors bearing most directly on the intellectual equipment of the subject are the most fallacious. Of these the $F+\%$ is the most reliable. The O percentage, as mentioned previously, is subject to considerable fluctuations in the different groups. The elements dealing with the numerical assessment of the affective side of the personality also show divergences in different groups of normal subjects, but actually the correlation between the varying properties of B and Fb answers, and the psychological conditions Rorschach held them to represent, is extraordinarily close. In general, it is in its broader claims that the investigation is most justified. Take, for example, the statement that the colour answers are reduced in depressive conditions. Without selection, from the first 50 psychograms of depressed patients encountered, the number of colour answers was estimated, with the following results :

FFb.		*FbF.*		*Fb.*
29	.	11	.	0

This gives for each subject average values of—

FFb.		*FbF.*		*Fb.*		$\Sigma Fb.$
·58	.	·22	.	0	.	·51

When one considers that the average for normals is 1·96, for the group used in this investigation, and that the patients above were not by any means a group of true melancholics, in whom the maximal diminution of colour answers occurs, but a rather heterogeneous group of depressed dements, paranoids, cases of dementia præcox, as well as manic depressives, such a claim as quoted above must be considered justified.

The finding that the kinæsthetic elements are reduced in depressive conditions is also abundantly confirmed in the investigation from which this material is derived. From a similar heterogeneous group of depressives there was obtained, from 105 subjects, a total of 36 B answers, an average value of ·34, as compared with the figure of 1·63 for normals, which latter figure is, in addition, the smallest average value extant for the kinæsthetic factor in normals.

Such instances of the clinical correlations of the affectively-determined answers could be considerably multiplied. The broader analogies between reaction-types and the factors indicating intellectual potentialities associated with them (e.g., the $F+\%$, $O\%$ and $V\%$ in coartation) have been repeatedly confirmed by the writer.

Allowing for the fact that the factors indicative of intellectual potentialities are the most fallible, even here Rorschach's broader and more basic claims find ample support, and, possibly, in one instance, most striking confirmation.

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The close relationship between his average normal *Erfassungstypus*, and that obtained in my own investigation, is quite remarkable :

	A.	*G.*	*D.*	*Dd.*	*Dzw.*	*Do.*
Rorschach	34	8	23	2	1	0
A.G.	34	9	20½	2½	2	0

My results are expressed in terms of 34, which was the average number of whole answers obtained by Rorschach. Actually the readjustment necessary was of the most trifling degree, because the number of whole answers in this investigation showed a most striking coincidence with those of Rorschach, there being 3,336 per 100 subjects, i.e., an average of 33·36.

My greatest criticism of Rorschach's claims is concerned with his *Erfassungstypus* findings. The *Erfassungstypus* associated with different psychological states seemed often less constant than Rorschach laid down. For instance, a far higher proportion of *G* answers was found in depressed subjects of all types than ought to be the case according to the formula of Rorschach.

Criticism of the validity of the test will be seen to be concerned mostly with variations in the average values of different factors, and much of it loses significance in the light of Rorschach's dictum that no single factor should be regarded as of individual significance apart from those with which it is related.

The nature of most criticisms of the test is to be explained largely by the fact that it is prompted by a desire for what Vernon calls " objective validity ", wherein is implied the necessity that it be adjusted according to the most rigid and discriminating mathematical systems of the psychometrists. The test, so far as Rorschach carried it, was something evolved subjectively, to give a broad, schematic outline to the personality. As Kretschmer states, it deals widely and deeply with the aspects of personality. The test is in a state of metamorphosis. Rorschach himself provides the clue, and the objective mathematical justification will no doubt emerge when are provided all those statistical comparative tables the necessity for which he felt so keenly, and laboured to provide so painstakingly, during his all too brief existence.

In conclusion, it may be said that an additional application of the Rorschach test is in establishing the diagnosis in cases where the clinical picture is equivocal. Herein is being considered particularly the diagnosis in those subjects where depression may occur either in the manic-depressive psychosis or associated with schizophrenic conditions. This is work in which the author is engaged at present, in the aims of which he believes, and for the proof of which he hopes soon to adduce sufficient data.

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