# BODY-SWAY SUGGESTIBILITY AND NEUROSIS

By

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## I—THE PROBLEM

IN 1947 H. J. Eysenck published evidence which led him to the conclusion that neurotics as a group were more suggestible than normal individuals. Suggestibility was measured by means of the Body-sway test, a modification of Hull's method (1933). The distributions of 900 male and 330 female neurotics on this variable were clearly different from that of the control group of 120 normals. For example about 17 per cent. of the male neurotics and about 14 per cent. of the females fell outright, an event which was never observed in the normals. The distributions for the male neurotics and normals are shown in Table I. When the

TABLE I*

*Percentage distributions of sway with suggestion*†

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Fell |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Normals (120) .. | 29 | 50 | 10 | 5 | 3 | 1 | 1 | 1 | | | |
| Neurotics (900) .. | 8 | 18 | 20 | 12 | 10 | 6 | 4 | 3 | 1 | 1 | 17 |

patients were graded according to the degree of "neuroticism", they showed, there was a continual increase in average suggestibility scores from the normals (with a mean score of 1·02 in the males) through five grades of severity of illness to the most neurotic (with a mean score of 5·55 in the males). Eysenck concluded that "suggestibility is closely related to neuroticism". (1947, p. 189.)

An examination of Eysenck's method of measuring body-sway led the present writer to believe that an alternative interpretation of the findings might be given. Suggestibility was defined as the maximum displacement from the vertical position (either backwards or forwards) during a 2½ minute period in which suggestions of falling forward were given by means of a gramophone record. The direction of sway was not taken into account, as there was a tendency for the most negatively suggestible to show more neurotic symptoms as well as those who swayed forward. It is clear that this displacement can be divided into two components, one due to the effect of suggestion and the other resulting from the sway which is always present in standing with the eyes closed (static ataxia).‡ The two components are not necessarily independent. It seems that Eysenck's observations could have resulted from the fact that the neurotics

* Adapted from *Dimensions of Personality*, p. 184.

† All results in this paper are expressed in inches.

‡ This term when used in a clinical sense refers to an abnormal amount of swaying. It has now become customary to use it to designate sway as a variable present in all individuals to some degree.



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showed greater static ataxia than the normals, in which case the effect of suggestion could have been the same for the two groups.

TABLE II

*Percentage distributions of static ataxia (inches)**

| | 0–1 | 1–2 | 2–3 | 3–4 | 4–6 | 6+ |
|---|---|---|---|---|---|---|
| Normals (120) .. .. | 82 | 18 | | | | |
| Neurotics (900) .. .. | 27 | 38 | 14 | 6 | 7 | 7 |

Eysenck did in fact measure the static ataxia of his subjects during 30 seconds before giving the suggestions, defining it as the maximum displacement forward plus the maximum displacement backward. His results are shown in Table II. It is at once apparent, as he pointed out, that neurotics are differentiated from normals with respect to static ataxia. This variable seems to give at least as good a differentiation between the two groups as suggestibility, defined as described above, in spite of the fact that its measurement takes only one-fifth of the time. This fact shows that the interpretation suggested is, at least, plausible.

Recently, Eysenck (1952) has reported more findings which are in the same direction as the earlier results. With respect to suggestibility, however, the later figures do not show such a clear differentiation between neurotics and normals as was found previously. Clarke (1950) and Gravely (1950)† found that neurotics and normals did not differ significantly with respect to suggestibility, although there was a small difference in the predicted direction. Investigations by Furneaux (1952) and by Himmelweit, Desai and Petrie (1946) have supported the hypothesis that there is a difference in suggestibility between the two groups. The difference in static ataxia between neurotics and normals has been confirmed by several workers and can probably be accepted as an established fact.‡

In all those cases where a difference in suggestibility was found, it could have been accounted for by the difference in static ataxia. The object of the present investigation was to determine whether the difference in performance between neurotics and normals on the Body-sway test could be accounted for in this way or whether neurotics did in fact respond more to suggestion.

## II—METHOD

### (i) *General Outline*

The design of the investigation was determined largely by the fact that it was possible to measure static ataxia independently of response to suggestion, using the Body-sway test, but not *vice versa*. The test was given twice to each subject. On the first occasion, the suggestion was omitted. During the 2½ minute period when the suggestion is usually administered, static ataxia was measured as the sum of the maximum displacements forward and backward. After a rest period the test was given in the ordinary way with suggestion. A group of normals and another of neurotics were tested in this way.

### (ii) *Apparatus*§

The apparatus (see Fig. 1) for measuring body-sway consisted of a movable scale (A) mounted on a board (C). A cotton thread, attached to the subject's coat

* Adapted from *Dimensions of Personality*, p. 276.

† Although described in separate theses, the authors explain that the work was done jointly. Each thesis contains a full account.

‡ Hildebrand has recently failed to find a significant difference in static ataxia but he used a measuring device which differed in many respects from those of other workers.

§ This apparatus is similar in certain respects to one designed by A. Heron (1951).

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by means of a paper clip, passed through three guide rings (D) fixed to the scale, over a screw (E) to a weight (K) of 14·5 gms. which served to keep the thread taut. The scale was graduated in quarter inch units, as shown, from a central zero point in line with the central guide ring. An arbitrary point (G) was marked on the thread and the maximum sway in either direction was recorded by means of riders (H) comprising small brass nuts (6 B.A. Hexagon). Preliminary trials showed that the riders maintained a constant position on the thread except when they came into contact with the central guide ring which was too small to allow them to pass.

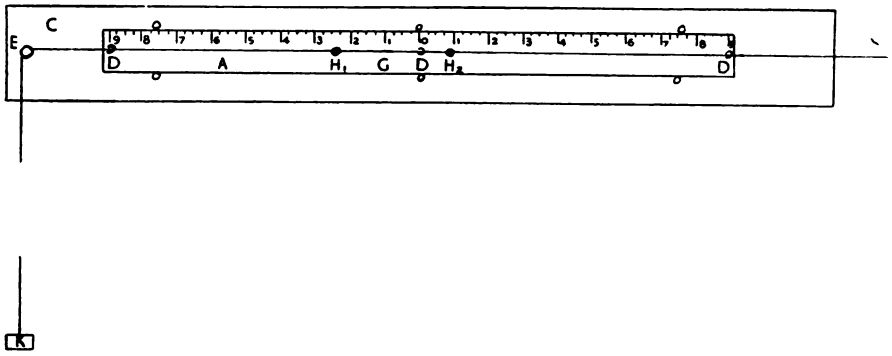



FIG. 1

The apparatus was mounted horizontally at a height of 5 feet from the ground. The distance between the wall and the nearest point of the apparatus (I) was about 6½ feet. Two pieces of equipment were constructed, each according to the above specification, and checked to make sure that they gave identical readings. One of these devices was mounted permanently in the room where all the patients were examined and the other was fixed to a portable stand. The latter was used for testing the normals, and was erected in a room which was made available at their place of employment.

The record used for administering the verbal suggestions, was one made by H. J. Eysenck for another investigation. Included on the record were the preliminary instructions: "Just keep standing quite still and relaxed please, with your eyes closed, and listen to me. Now I want you to imagine you're falling forward, you're falling, falling forward, you're falling forward all the time . . ." For convenience, the record was reproduced on a tape recorder, which was placed on a table in front of the subject and to his right.

(iii) *Test Procedure**

It was necessary to ensure that the subjects were unaware, during the test without suggestion, of what was to follow in the test with suggestion. This was to eliminate, as far as possible, any introduction of auto-suggestion by the subject. An attempt was made to test all the patients within a few minutes of admission to hospital, to prevent other patients from giving them information about the tests. Similar precautions were taken in the case of the normals by ensuring that none of them were told, before the investigation started, exactly what the tests involved. The only information they were given was that they would have to stand still for a few minutes with the eyes closed. Each normal

* An attempt was made to adhere as closely as possible to the procedure outlined by Eysenck (1947).

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subject was asked to co-operate by not disclosing any more information to the rest of the group. It was not anticipated that these measures would be entirely successful and a further check was introduced by questioning after the tests. When there was reasonable suspicion that a subject knew, during the initial test, about the verbal suggestion that was to follow, or was thinking about falling, he was excluded from the group. The precise criteria for exclusion are stated below. Before the test was given, the subject's height was measured and recorded, together with his own estimate of his weight. He was then asked to stand facing the wall, approximately half way between it and the measuring apparatus, with his feet together, his arms hanging loosely at his sides and his eyes closed. After checking to make sure that his heels and toes were together and that his eyes were closed, the paper clip was attached to his coat collar, roughly in line with the back seam.

The sliding scale (A) was then adjusted until the central guide ring (D) was in about the same position as the ink mark (G) on the thread. This defined an arbitrary zero point somewhere within the range of movement of the ink mark. The riders (H) were then placed close to the central guide ring (D) and the stop watch was started as soon as they were in position. After thirty seconds the distance $H_1G$ (=F) and $H_2G$ (=B) were measured to the nearest quarter inch. When these observations had been recorded, the riders were returned to their positions close to the central guide ring. The experimenter stood in front of the subject and said "Just carry on standing there with your eyes closed." From this point a further period of $2\frac{1}{2}$ minutes was allowed to elapse before further measurements of F and B were made and recorded. As far as possible, the same section of the scale was used for both measurements of one test but variations did occur from test to test. After the test the subjects were asked how they felt and whether they had been thinking about falling.

They were then allowed to rest for a period of fifteen minutes from the end of the first test to the beginning of the second. During the rest period, the patients were in the same room with the experimenter but the normal subjects were in an adjoining room with an assistant. In both cases, illustrated magazines were available for those who wished to read them.

The second test, with suggestion, was administered in precisely the same way, with the addition of the record during the $2\frac{1}{2}$ minute period. After recording the measurements at the end of the 30 second period and re-setting the riders, the experimenter stood in front of the subject and said "I am going to play a record to you now. I want you to listen carefully to what the record says, while you go on just standing there, quite still and relaxed, with your eyes closed. Listen carefully and just keep on standing as you are standing now. I am putting the record on now." The stop-watch was started as the first word of the record was spoken, and the voice was faded out rapidly at the end of exactly $2\frac{1}{2}$ minutes.

When a fall occurred, the stop-watch was stopped immediately and the subject was caught by the experimenter. The latter stood sufficiently far from the subject to ensure that no recovery of balance would have been possible without the subject's either moving his feet or putting his hand against the wall, had the experimenter not held him upright. In some cases, the subject did move his feet or put out his hand to recover his balance before coming into contact with the experimenter. In these cases falls were recorded as occurring at the times when these movements took place.

After F and B had been recorded as before, the subject was allowed to sit down. Further questions were asked mainly in an attempt to discover any subject who had had prior knowledge of the test procedure.

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## III—Subjects

Except for a few unavoidable omissions, all patients admitted to the neurosis centre of Whitchurch Hospital during the period of the investigation were tested. They were all male and over twenty years of age.

The normal group was comprised of employees of the Inland Revenue Department, Llanishen, Cardiff. A complete alphabetical index of staff was available, divided into two sections, established and temporary, in the ratio of approximately two to one. From the established personnel, the first two people from each letter of the alphabet were selected, and from the temporary staff the first one. Only people born between 1906 and 1932 were included. Anyone falling outside this range was replaced by the next person in the alphabetical list. Although the selected group contained both sexes, it was later decided to test only the men, who comprised about 60 per cent. of the group. Two of these refused to take part in the investigation.

The following subjects were excluded:

(*a*) All patients who were over 45 years of age.

(*b*) Subjects for whom it had been impossible to follow the experimental procedure rigidly.

(*c*) Patients who had heard the record before being tested.

(*d*) After the first test the subjects were asked "What were you thinking about all the time?" Any whose answers included falling or overbalancing were excluded.

(*e*) Subjects who admitted on direct questioning to having known beforehand about the test procedure.

(*f*) Patients in whom there was any suspicion of an organic disease in the C.N.S. or of a psychotic illness. The decision to exclude patients on these grounds was based on a review of the cases made at the end of the investigation by the psychiatrist in charge. No patient had been in the neurosis centre less than a month when this review was undertaken.*

(*g*) Patients who appeared to have lost consciousness at some point during the test.

(*h*) Patients who smelt strongly of alcohol.†

Of the 47 normals seen, 5 had to be excluded on one or other of these points. Of the 70 patients tested, 33 had to be excluded, 12 on the grounds of age.

The average age of the neurotics was 34·1 years and of the normals 35·7 years. The mean height of the neurotics was 68·0 inches and of the normals 69·5 inches. The means of estimated weights were 143 lb. for the neurotics and 157 lb. for the normals. Although this suggests that the two groups might differ with respect to weight, it was found that the correlation between estimated weight and static ataxia was insignificant in both groups.

## IV—Results

### (i) *Correction for Arbitrary Zero*

As described above, the results recorded were measurements of the maximum displacement forward (F) and backward (B) from an arbitrary zero point, during a given time. The first necessity, therefore, was to define the zero point more precisely and to make the appropriate correction to each measurement. This point has not been mentioned by previous writers who, presumably,

* One patient became suspected of being schizophrenic after the analysis was completed. Amounts of static ataxia and sway with suggestion in this case were 1·8 in. and 1·9 in. respectively.

† Three patients, who all admitted having been drinking on the afternoon of the test.

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fixed their zero points as accurately as possible using subjective judgments. Omitting to define the zero point precisely could have introduced a considerable error of measurement. The static ataxia measurements are not, of course, affected as, being the sum of F and B, they are independent of the position of the zero point.

In this investigation the zero point was defined as the point midway between the position of maximum displacement in the forward direction and that in the backward direction during the initial 30 seconds. If F′ and B′ represent the maxima recorded during the initial 30 seconds, and F″ and B″ the maxima recorded during the 2½ minutes of suggestion, all taken from some arbitrary zero point, it can easily be shown that a correction of $\frac{F'-B'}{2}$ must be subtracted from F″ and added to B″ to give the true readings taken from the zero point defined above.

The results of the investigation are stated in terms of the following variables:

(i) Static ataxia $= {}_{1}F'' + {}_{1}B''$

where ${}_{1}F''$ and ${}_{1}B''$ are the maxima recorded during 2½ minutes without suggestion (first test).

(ii) Sway with suggestion $= {}_{2}F'' - x$ or ${}_{2}B'' + x$ (whichever is greater)

where $x = \frac{{}_{2}F' - {}_{2}B'}{2}$

and ${}_{2}F''$ and ${}_{2}B''$ are the maxima recorded during 2½ minutes with suggestion (second test).

(ii) *Analysis*

Table III and the first two rows of Table IV show the distributions of normals and neurotics with respect to static ataxia and sway with suggestion.

TABLE III

*Percentage distributions of static ataxia (inches)*

| | 0–·9 | 1–1·9 | 2–2·9 | 3–3·9 | 4–4·9 | 5–5·9 | Fell |
|---|---|---|---|---|---|---|---|
| Normals (42) .. | 4·8 | 52·4 | 38·1 | 4·8 | | | |
| Neurotics (37) .. | 2·7 | 35·1 | 35·1 | 7·1 | 13·5 | 2·7 | 2·7 |

TABLE IV

*Percentage distributions of sway with suggestion (inches)*

| | 0–·9 | 1–1·9 | 2–2·9 | 3–3·9 | 4–4·9 | 5–5·9 | 6–6·9 | 7–7·9 | 8–8·9 | Fell |
|---|---|---|---|---|---|---|---|---|---|---|
| Normals (42) .. | 26·2 | 54·7 | 7·2 | 2·4 | 2·4 | | | 2·4 | | 4·8 |
| Neurotics (37) | 5·4 | 45·9 | 18·9 | 10·8 | 8·1 | | | | 2·7 | 8·1 |
| Selected Neurotics (30) .. | 6·6 | 56·1 | 19·8 | 9·9 | 3·3 | | | | | 3·3 |

The effect of variations in static ataxia can be eliminated by matching the two groups on this variable. This may be done reasonably well by removing from the neurotic group all individuals falling outside the range of the normal

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group in Table III. The remaining neurotics show rather more static ataxia than the normals but the difference is quite insignificant. Third row of Table IV shows the distribution of the thirty remaining neurotics with respect to the second variable, sway with suggestion.

In planning the investigation it was decided that a straightforward analysis using the "t" test would be appropriate. A "t" was to be calculated for the difference between the means of the two complete groups for both static ataxia and sway with suggestion. This was to confirm that Eysenck's findings could be repeated using these techniques and subjects. Assuming that both differences were found significant, the difference between the mean sway with suggestion of the normals and that of the thirty selected neurotics was then to be assessed for significance, again using the "t" test. Despite the obvious fact that the distributions were far from normal, this analysis was actually done as it was not thought that the departure from normality was sufficient to distort the results seriously. As a result of various discussions, however, several other methods of analysis were tried. The results of three analyses are reported. The first is the analysis using the "t" test as originally planned. The second is the application to the same data of the "U" test described by Mann and Whitney (1947). This is a non-parametric test based on the ranking of individuals in the combined group of normals and neurotics. It was chosen because it seems to make the best use of the information available without making any assumptions about the shape of the distributions.

TABLE V*

*Levels of significance (P) of differences between neurotics and normals*

| | P derived from t | P derived from U |
|---|---|---|
| Static Ataxia | $<\cdot005$ | $<\cdot02$ |
| Sway with suggestion | $<\cdot05$ | $<\cdot001$ |
| Sway with suggestion (selected neurotics) | $<\cdot33$ | $<\cdot005$ |

* The detailed results are as follows:

TABLE VA

| | | Static Ataxia | | | Sway with suggestion | | |
|---|---|---|---|---|---|---|---|
| | N | Mean | S.D. | Sum of ranks | Mean | S.D. | Sum of ranks |
| Normals | 42 | 1·81 | ·60 | 1451·5 | 1·94 | 2·12 | 1332·0 |
| Neurotics | 37 | 2·56 | 1·42 | 1708·5 | 2·88 | 2·52 | 1828·0 |
| t | | | 3·1 | | | 1·77 | |
| U | | | 548·5 | | | 429 | |

TABLE VB

| | Sway with suggestion | | |
|---|---|---|---|
| | N | Mean | S.D. | Sum of ranks |
| Normals | 42 | 1·94 | 2·12 | 1307·5 |
| Selected neurotics | 30 | 2·15 | 1·68 | 1320·5 |
| t | | | ·44 | |
| U | | | 404·5 | |

The results of the two tests of significance applied to the three comparisons are shown in Table V. The figures for the "t" test are included to illustrate the

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fact that the two tests can lead to quite different conclusions. As the "t" test involves assumptions which are certainly not justified with these data and as the "U" test assumes only that the distributions are continuous, conclusions are based upon the latter.

Considering the figures for the "U" test, then, two conclusions may be drawn. Firstly, they confirm that neurotics tend to sway more than normals on the Body-sway test, both with and without suggestion. Secondly, the difference between the two groups with respect to sway with suggestion cannot be accounted for by the presence in the neurotic group of a few individuals who are outside the normal range in static ataxia. The difference between neurotics and normals is still significant at the ·5 per cent. level even when the groups are selected so as to show no significant difference with respect to static ataxia. The evidence, therefore, supports the hypothesis that neurotics tend to respond more to suggestion than normals.

There are two considerations which detract from the validity of the second conclusion. The first is that the test of significance on which it is based was selected after the data had been collected and examined in detail. It was selected from a number of possibilities, many of which were actually tried. (Excluding the result of the "t" test, P varied between ·1 and ·03 depending upon which method was used.) The criterion for selecting this particular test rather than another was that it made the most use of the data available, whilst involving no assumptions about the shape of the distributions. Nevertheless, it is still open to the criticism that the method of analysis was selected, perhaps unconsciously, because it gave the answer which fitted the preconceived ideas of the investigator. The second difficulty is that the groups were not completely matched on static ataxia. The difference between them was insignificant, but the neurotics still showed slightly more static ataxia than the normals.

In an attempt to see whether this influenced the result materially, the groups were carefully matched for static ataxia by pairing. The difference in sway with suggestion now became insignificant, using the Wilcoxon test for matched pairs (Wilcoxon, 1947; Moses, 1952). Each neurotic was matched with a normal for static ataxia. Where there was more than one normal with the same static ataxia, the individual was chosen who was nearest, first in height, and, if an alternative was still possible, in age. Using this method it was found that, by chance, two neurotics who had rather high scores in sway with suggestion, had been excluded. If these individuals were included, the difference was almost significant at the 5 per cent. level. Two further points are (*a*) that it was only possible to select 28 pairs in this way and some data had to be discarded, and (*b*) that the Wilcoxon test makes use of different information (i.e. the amount of the difference between individuals in each pair rather than the relative order of individuals in the two groups). These three facts are probably sufficient to account for the discrepancy. Nevertheless, the difference was not significant using this method, which does throw some doubt on the validity of the general conclusion based on the Mann-Whitney test.

The third method of analysis which was used involved the assumption that response to suggestion could be defined as the difference between the maximum movement without suggestion and that with suggestion. If $F_a$ and $B_b$ are the maximum displacements from the zero point (defined above) during $2\frac{1}{2}$ minutes without suggestion, and $F_s$ and $B_s$ are the maxima recorded during the second $2\frac{1}{2}$ minutes with suggestion, the difference score is either $F_s - F_a$ or $B_s - B_a$ whichever is the greater. Table VI shows the distributions of difference scores in the two complete groups of normals and neurotics.

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TABLE VI

*Percentage distributions (difference scores)*

| | −3–2·5 | 3–8·5 | 9–14·5 | 15–20·5 | 21–26·5 | 27–32·5 | 33–38·5 |
|---|---|---|---|---|---|---|---|
| Normals (42) .. | 64 | 26 | 0 | 2 | 2 | 0 | 5 |
| Neurotics (37) .. | 33 | 47 | 11 | 0 | 3 | 0 | 6 |

In this case the difference is significant at the 2 per cent. level using the Mann-Whitney test.* The method was chosen after the data had been examined. The only other test of significance which was actually done, however, was the $\chi^2$ test on a $2\times2$ contingency table with the cutting point between 2·5 and 3. $\chi^2$, corrected for continuity, is 6·24 and P is less than ·01 using a one-tail test.

The definition of response to suggestion as a linear function of sway with suggestion and static ataxia might be questioned and would be difficult to justify except as a purely arbitrary measure. With the reservations mentioned, however, this method of analysis confirms that there is a difference between neurotics and normals with respect to response to suggestion on this test.

There were extensive ties in all the rankings concerned in these analyses. This did not, however, seem to affect the results appreciably. The application of corrections for the existence of ties and for continuity (Kendall, 1948) did not alter the levels of significance. The assumption that "U" is normally distributed under the null-hypothesis has been shown by Kruskal (1952) to be justified, even when there are ties of varying extents.

## V—DISCUSSION

This investigation was the first step in an attempt to explain previous findings concerning the behaviour of neurotics in the Body-sway test of suggestibility. The phenomena with which we are dealing appear to be related in some way to neurosis, in the sense that they tend to appear in an exaggerated degree in neurotic patients. It seems almost certain therefore that, in so far as we are able to explain them and verify our explanations by experiment, our understanding of the illness or illnesses concerned, will be increased. If we could understand how this phenomenon of heightened response to suggestion is produced in certain patients (assuming that it occurs), we should surely be nearer to an explanation of all the abnormalities of function which make up their illnesses. So far we have been concerned entirely with the problem of establishing whether the phenomenon actually exists or not. Only when this has been done will it be possible to proceed to the next and much more interesting stage of developing explanatory hypotheses and testing them by experiment.

The main facts which have been established to date are that neurotics have a tendency to sway more than normals on the Body-sway test either with or without suggestion. The present investigation confirms the results of previous work in this respect. This is particularly important owing to the fact that both samples were from populations which differed in many respects from those of previous investigators. These facts may now be regarded as well established and fairly general in application, having been confirmed in a variety of different neurotic and normal groups, although two cases are on record of investigations which failed to find significant differences in sway with suggestion and one which found no significant difference in static ataxia (Clarke, 1950; Gravely, 1950; Hildebrand, 1953).†

* The sum of ranks was 1638·5 for the neurotics making U=972·5.

† These investigations differed from the others with respect to both the measuring apparatus used and the way in which the suggestion was administered.

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The primary object of this research was to determine whether the difference between the two groups on sway with suggestion could be accounted for by the static ataxia component of the Body-sway measurement. The results do not support the hypothesis that the difference can be accounted for in this way and indicate that the neurotics tend to respond more than the normals to suggestion. For the reason stated in the previous section, however, the evidence relating to this point cannot be regarded as entirely conclusive.

As far as the writer is aware, all investigators claiming to have found a positive relationship between neuroticism and suggestibility have assessed the latter by means of the Body-sway test. Before it is permissible to accept that neurotics respond more to suggestion irrespective of the particular test situation involved, it is necessary to establish that the phenomenon occurs in other situations. To obtain the evidence required on this point and to confirm the conclusion discussed in the last paragraph another investigation was planned making use of Hull's arm-movement test. The results of this investigation will be reported in another paper.

## VI. Summary

The Body-sway test of suggestibility, as described by Eysenck, does not allow a measurement of response to suggestion to be made independently of static ataxia. Because of this, the difference between neurotics and normals with respect to "suggestibility" as measured by this test may be entirely due to a difference in static ataxia.

To see whether this interpretation was correct, a group of normals and a group of neurotics were given the Body-sway test twice. They were first given the test without suggestion and fifteen minutes later they were tested in the usual way with suggestion. The two groups differed significantly with respect to the amount of sway both with and without suggestion. When those individuals who came outside the range of the normals with respect to sway without suggestion were removed from the neurotic group, the remaining neurotics still differed significantly from the normals with respect to sway with suggestion.

The two groups also differed significantly in response to suggestion when this was defined as the difference between maximum displacement with suggestion and that without suggestion.

It was concluded (1) that neurotic patients tend to sway more than normals both with and without suggestion and (2) that these neurotics tended to respond more than the normals to suggestion. Certain reservations had to be attached to the second conclusion and a further investigation is required for confirmation.

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J. Reynolds assisted with the testing of control subjects.

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