

The Importance of Sand in the World Technique: An Experiment.

By RUTH BOWYER

(Psychology Department, University of Bristol.)

I.—INTRODUCTION.

One of the major differences between the Lowenfeld World technique and Dr. Charlotte Buhler's modification of it, is the place given to sand. Whereas Dr. Margaret Lowenfeld always uses a sand-filled tray in which the subject makes his construction, Dr. Buhler* advocates "at least six feet square of floor space, preferably in the centre of the room so that he can walk around his work." "Adolescents and adults often prefer to work on a large table." It is true that Dr. Buhler sometimes provides a sand-box which children may use if they prefer, but she regards this as more interesting for play therapy than for diagnosis. It seems strange that her wide experience has not led her to give more consideration to standard diagnostic principles for the use of sand.

In the gradual collection of age norms at Bristol, where to date Worlds have been made by some 300 persons (apart from those obtained in play therapy) it has been found that sand is used destructively, expressively, symbolically, or constructively; is ignored except as a base; or is reacted against, to the extent of covering it over with cardboard. Between the ages of two and four years children tend to pour sand over people and things, or to bang the sand, sometimes with the words "Down, down!" Burying also occurs, not always with hostile intent. Sometimes the vigour of the young child prevents him from balancing an animal on the surface of the sand, or perhaps non-recognition of the surface boundary causes him to thrust objects deep into the sand. Mrs. Eve Lewis, in a letter about Worlds from Exeter Child Guidance Clinic, writes: "I have often observed the careful burying of some toy to indicate, not aggression, but acceptance of that which the toy symbolized in the collective unconscious. The child usually asks that it be left for him to find again next time." After the age of 4 or 5 years, almost to the teens, there is relatively little use of sand except in clinic cases. From 13-15 years, or earlier, where the mental age is advanced, there begins to appear a constructive use of sand, for hills and valleys, roads and rivers, waves of the sea, or furrows in a ploughed field. This paper gives an account of an experiment designed to answer the question of the diagnostic import of such a constructive use of sand.

II.—THE HYPOTHESES.

From experience of subjects who manipulated sand to form hills, valleys, roads and rivers, it seemed that this is a fairly sophisticated response, rarely occurring with children under eleven years. Younger children who used the sand in this way did so only after they had been coming for therapy for some time, with the exception of one 7-year-old boy with a Stanford-Binet I.Q. of 158, who used the sand constructively on his first visit.

The effect of the constructive use of sand is to create a more realistic, life-like product. Following Lewin's concept of differentiation as the hallmark of development, which was a useful frame of reference in ordering the normative data,† we can see that the moulding of the landscape to secure a three-dimensional quality gives increased life-space, variety and organisation. The sand base now forms an interdependent relationship with the toy objects, e.g., tractors, ships, trees. Intercommunication is secured by road, river or tunnel. From consideration of the concept of differentiation, as well as from observation of the behaviour of people who made Worlds, it seemed probable that further evidence would support the hypothesis that the constructive use of sand is a sign of good intelligence.

* BUHLER, CHARLOTTE. *Journal of Child Psychiatry*, 1951, 2, pp. 69-82.

† BOWYER, RUTH. *A Normative Study of Sand Tray Worlds*. Paper read at B.P.S. Annual General Meeting, Manchester, 1956.

A further hypothesis arises as to the quality of this intelligence. It has to be taken into account that a person who proceeds to move the sand in response to the instructions "make what you like, in here, with these toys" is going beyond what many people regard as given. He is using initiative, he is to some extent restructuring his world, he is making an even more imaginative response than that of the person who creates a scene with the toys on static sand. The further hypothesis, therefore, is that the constructive use of sand bears in part a similar interpretation to the Rorschach movement response (M). Both, i.e., sand construction and perception of human movement in the blot, are creative rather than passive responses. Both signify availability of inner resources of imagination and intellect.

There is no evidence that the constructive use of sand has also the social implications of the M responses, namely that there is sufficient interest in persons for social relatedness. Indeed, even in the Rorschach, the M responses needs support from the rest of the pattern for such a prediction. In the World technique there is no suggestion that the equivalence with M goes beyond a relation with creative intelligence. To the extent that imagination and intelligence are valuable in themselves, the constructive use of sand is a good prognostic sign, i.e. "other things being equal."

III.—THE EXPERIMENT.

The opportunity to test the hypothesis that the constructive use of sand is an intelligent response came when Dr. Lumsden Walker and his staff at Hortham Hospital, Gloucestershire, kindly allowed the World technique to be used with their mentally defective patients, in furtherance of developmental norms. 216 patients made Worlds and there was a control group of fifty intelligent subjects. The criterion of intelligence was high school or university education. The age range of the Hortham patients was 7-58 years, the majority being 20-35 years old. The control subjects were from 14-50 years of age, the majority being 20-25 years old.

The Hortham patients made Worlds in the hospital Board Room, where it was not practicable to offer the free use of water. Therefore, the sand was kept at a uniform dampness, sufficient for easy moulding. The control group made Worlds in Bristol University Department of Psychology, and half of these control subjects (namely those who were also given the Rorschach test) were presented with the sand dampened as for the Hortham patients. The remaining control subjects had made their Worlds earlier in accordance with the usual instructions to use water if they wished.

The Rorschach test was administered to twenty-one of the control group, on the same day or within a week of making a World. The reason for stopping at that number was that no subject failed to give M responses, and so it seemed that the expectation of M from this group was sufficiently supported by the sample of twenty-one to justify the testing of an equal number of mentally defective subjects. Only high grade patients were chosen, namely one who used the sand constructively, two who did so tentatively, and any others sent by the hospital staff, provided the age range was the same as for the twenty-one control subjects. It was necessary to exclude children, since there could not be much expectation of M responses from them. The reason for giving the Rorschach test to high grade patients only was to secure Rorschach protocols with a sufficient number and range of responses to make the search for M meaningful. It also seemed best to put the hypothesis of few M responses from the Hortham group to as hard a test as possible.

IV.—RESULTS.

The results were as follows:

A.—Numbers using sand constructively:

Hortham Group (216).

1

Control Group (50)

48

The only Hortham patient who used the sand constructively was a woman with a Wechsler I.Q. of 95 who is a 'social risk' case. Two other high grade patients made beginnings, with an inch of path poked out sketchily in the sand with a finger.

Of the two members of the control group who did not use sand at all, one was the youngest subject (age 14) and the other was a university student who remarked that from time to time in her childhood she attended a psychiatrist about skin troubles which assail her whenever she is upset.

B.—Rorschach M Responses.

<i>Hortham Group</i> (21)		Control Group (21)
Persons with M	6	21
Total No. of M in group	7	135
Average No. of M per person	0.33	6.4

Of the Hortham group, five persons had one M response each, and one man had two M responses.

V.—DISCUSSION OF RESULTS.

There seems to be no doubt that the constructive use of sand can be considered a sign of good intelligence. The experiment also supports the view that there is a relationship between this sign and that of the Rorschach M response, implying that the diagnostic import of sand construction is not only that of good intelligence, but indicates also a qualitative personality difference, namely the availability of inner resources of imagination.

Imaginative intellect may serve most often as a stabilising influence, but can, of course, go beyond what is optimum for social adjustment. One of the finest Worlds for sand construction was made recently in a hospital by a paranoid schizophrenic. She made a vivid mountain scene in the Lake District, where a car was shown crashed against a tree. She said that this scene was herself, "very bleak," and that it was also her childhood home. Then she made an expressive (peaceful) valley scene with a cottage, which she described as her ideal self, in contrast to the actual bleakness. In the same way a Rorschach protocol from certain kinds of schizophrenics may show a very high M column and no balancing FC at all, where the individual has abandoned ordinary life in favour of fantasy.

On the other hand the student who ignored the sand, and who tends to have skin trouble when she is emotionally upset, is clearly of a somewhat hysterical personality. She gave M responses in the Rorschach test, but perhaps in face of the World task, with its more life-like materials, 'inexorable repressions' prevented her from using the sand constructively.

There is a suggestion from these individual results and others, that the constructive use of sand is more associated with introversion than with extraversion. This is to be expected from the implications of the M column in the Rorschach.

The control group showed interesting contrasts, between individuals who expressed themselves factually, e.g., they depicted an actual place and pointed out its details, and other individuals who expressed themselves symbolically, e.g., they made a scene and explained that it had further meaning, as for instance 'the spirit of Pakistan.' Dr. Buhler* once formulated the hypothesis "that the threshold for the disposition to produce and to perceive symbols is individually a very different one." Many schizophrenics for example seem to have extremely low thresholds, and it may be that the secret of getting into rapport with such persons is to be not too dissimilar in this respect. The sand formation was frequently the aspect of the World chosen by members of the control group for symbolic expression. This would provide a standard situation for attempting research on the extent of individual and group differences in the disposition for symbols among normal children and adults. Such differences may be important for inter-personal understanding in the social and educational fields.

* BUHLER, CHARLOTTE. Symbolic action in children. *Transactions of the New York Academy of Sciences*, No. 17, 1941.