

The Study of Preverbal 'Thinking' and its Relation to Psychotherapy

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The subject of this paper is a child's relation to his experience of his own body, his bodily sensations and movements, the things that happen to him through his body and the things he experiences within his body, in his preverbal years.

Is it possible to gain direct evidence of the nature of this experience? I believe that it is and propose to put before you two such examples and to suggest inferences that, it seems to me may be drawn from evidence of this kind.

I propose also to refer briefly to an attempt which is being made, with normal children, to test some part of these hypotheses.

Small children are in a peculiar position in regard to their own bodies; sensations from them arise almost continually, powerful urges to movement, violent phenomena, like vomiting or diarrhoea, noises of their own crying, the feel of substances and the mystery of sleep.

It is a commonplace of paediatric examinations that small children are unable to locate the sensations they experience, Time, also in the sense of a process of time, has no meaning for them; each experience, as it arises, dominates the field of awareness.

Children think in action and in the manipulation of objects and repeat many times the actions they have found interesting. If we are to gain insight into the nature of their experience of their bodies, a situation must be created where unlimited opportunities for movement and suitable substances for manipulation are available, in a neutral atmosphere, free from impingement of the outside world.

In so brief a paper the 'how' and the 'where' of such work cannot even be touched upon, but opportunity will be provided during the period of the Congress, for members of the Congress interested, to study methods and evidence, at the Institute of Child Psychology and, if they wish, to see something of the testing of hypotheses at 92 Harley Street,

Let us now look at a sample of what children do in such a situation as I have described.

A boy of 9 with an I. Q. of 113 on the STANFORD REVISION of the TERMAN-MERRILL scale' after running around another room with a gun, hiding in a chest and donning a fireman's helmet as a 'war hat' left that room to find a World tray with dry sand in another room.

In this with objects in the World cabinets and around the room, he carried out a rapid series of manoeuvres, making running comments on what was happening.

It is notoriously difficult to convey in words what is carried out in action. Here, therefore, are four stylised drawings of the tray as it appeared at four different moments.

Illustration 1.

In the left-hand further corner, he placed aeroplanes, road signs, a flag and telephone kiosk. Then scooped out a railway track running across the front of the tray and put a tram upon it; a block of sand in the R. corner. The tram, containing a 'stowaway', moved along the track towards the block of sand,

Now something dangerous happens, a truck is tipped over and the stowaway is in danger, He gets into a getaway car, A large crane is found and placed in the centre of the tray; the crane lifts the train up and lets it down again, The tram pushes its way through the block and goes round and round the tray, A jet plane flies from the further L. corner diagonally across the tray. The train is filled with sand and continues round and round the tray. The getaway car, with stowaway in it, goes also round and round the tray.

Illustration 2.

A ready-made tunnel is now placed on the R, front corner, near the block of sand. The getaway car is exchanged for a better car and moves along with the stowaway in it, it 'gets stuck' near the centre of the tray.

Illustration 3.

A sandstorm now buries everything in the further left corner, including the stowaway car. The front lights of the car alone left showing, A police car now arrives, and, the boy says, 'looks for people's homes', The police clear the getaway car. The stowaway now becomes the detective and goes to the left further corner looking for the missing airport.

Illustration 4.

The airport is gradually cleared, and three planes are put on the mound resulting from the sandstorm, 'people' he says 'are going in super jets to another part of the country'. The police car starts going round and round the tray; the tunnel is put on the block of sand in right front corner; the getaway car goes the tunnel; the tunnel is now buried in

sand with the car inside. In one end of the tunnel, left free, the back lights of the car show. The stowaway keeps getting filled with sand through a hole in the lower part of the body. The sand is 'his power' and it enables him to fly over the tray and eventually to dive into and fly through the buried tunnel. '

Here then is a complicated study of movement and arrest of movement, on several planes and in several ways, In the central figure of the stowaway there is a reversal of significance. The objects used are thought of as moving of themselves. They also carry things and people. The stowaway, a magical figure, moves with his own power, in the air, on the ground and within the tunnel.

My second example shows a different idiom of expression dealing with similar problems.

A boy of 9 with an I.Q. of 84 on the TERMAN-MERRILL scale, put dry sand into a funnel and allowed it to run down into a barrow, repeating the process with a larger funnel, He then inverted the large funnel, joining the two funnels together with a piece of tubing and letting the sand run from smaller to larger funnel and into the barrow, He changed this arrangement and pouring sand into the upper funnel, listened to it pouring into the lower one and watched it gradually filling the space inside. When this was full he felt the pipe and finding it hard under his hand decided it must also be full of sand, Once again' he inverted the arrangement and added a bucket into which the sand flowed from the barrow, noticing that only a part of the sand in the big funnel filled the small one, At times the sand stopped pouring and he investigated his arrangement carefully, taking out what stopped the flow, leaving that room and using himself in place of the sand, he climbed wall bars and slid down a slide; put the medicine ball on the top of the slide and watched it rolling down,

In this example it is movement itself and the sensory aspect of movement, that the child is studying, in this case with no ideational component.

Study of these examples and comparison with many others suggests that these children are experimenting with presentation to themselves of separate parts of their inner experience, using different materials which are analogues of one another, with and without an added element of phantasy, Such examples represent one element only of our material, In other samples appear varying aspects of space, mass, movement and arrest of movement, force within and without, dangerous and safe, animals, people and objects in relation to one another, and movement in the children's own bodies.

Study of many thousands of such records makes it clear that in the work of children of different ages, physique, intellectual quality and sensorial sensitivity, who have been referred for different conditions, striking similarities occur, and that these similarities and parallel patterns are susceptible of analysis.

From such analysis it appears that in accordance with the already known fact that small children perceive only single facets of a total situation, there is a tendency for a single sensory component of a bodily experience to register as the kernel of that experience, standing to the child for the whole experience. What then appears to

happen is that wherever a similar sensation appears in the body, it becomes identified with the one first mentioned, each bringing with it to this identification all the other aspects of each experience.

In this way heterogenous agglomerations of differing aspects of experience are built up, often of considerable size. These carry with them to the child a feeling of reality.

The attitudes and actions of the surrounding adults tend to be seen in the light of this 'reality' and the whole to become highly charged with emotion.

What, then is the meaning of the scenes we have been looking at?

ROBERT THOMSON, in a recent book, makes two useful definitions:

'Thinking' he says 'in the sense of reasoning or cogitating is essentially a performance or activity . . . which consists in the exercise of capabilities and skills in a special way . . . The task of the psychologist is to devise a means of objectifying the behaviour of the subjects . . . so that a description is possible of what happens'.

What we have watched the children doing, is, I suggest, investigating, in a manner analogous to that described by THOMSON, the nature and the reality of parts of the agglomerations of inner experience that have built up within them. The concrete expressions of these agglomerations and their sorting out, with the help of the therapist, brings about changes in the children; lessening of tension and diminution of anxiety.

It should be appreciated that the type of identification that brings about these agglomerations differs in a radical manner from that found in dream condensation, in that it is directly accessible to representation and can be thought about by the children as it is expressed, I suggest that, for convenience m' reference, this part of the personality be called the proto-system. Since it is incapable of expression in words and does not appear, in consciousness, this mass of inner conviction remains hidden, to become the core of much psychopathic symptomatology on the one hand and of some forms of imagination and creative ability on the other.

As time does not exist in the proto-system, agglomerations though formed in 'time' do not integrate with history, but can float to the surface in the dreams and productions of adults, unchanged from the form in which they appear in childhood,

Familiarity with the proto-system and knowledge of the way in which its confusions can be undone, is therefore of considerable value to psychotherapy.

Although massive evidence such as I have presented, of children's non-verbal thought, has accumulated, the concept of the proto-system is a hypothesis and hypotheses need to be tested in other ways than that of clinical benefit.

If the formation of these agglomerations be, as I believe, in the main a cortical activity, it is in this field that a means of testing need to be sought. The current

interest in the teaching of primary school mathematics, the appearance of structural methods and the development of modern mathematics, present such a possible field. With the support, therefore, of the BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, the cooperation of my colleague by VILLE ANDERSEN, and the employment of certain mathematical tools devised by myself to represent aspects of the proto-system, it became possible a few years ago to initiate experiment in this field.

The promising nature of the results open out certain avenues in the field of early thinking processes which may well prove fruitful.

Members of the Congress interested will be able, if they wish, during the period of the Congress to see something of the nature of this work.

Thomson R: The Psychology of Thinking; 2. Publ., Pelican Books A453 1963 p, 19, 20.

Summary

Somatic experiences are central to the inner life of childhood. A brief description is given of a technique for making direct contact with this aspect of inner experience in childhood, with examples of the evidence obtained. A hypothesis is put forward that laws exist in all children for the building up of a system of inner registration of this aspect of experience, which it is suggested be termed the proto-system, understanding of which is important for psychotherapy. A reference is made to a process of testing this hypothesis being carried out by the author and a colleague in the field of primary school mathematical learning and teaching.

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