CHAPTER II

SURVEY OF THE STUDIES DONE ON CHILDREN'S DRAWINGS

The study of children's drawings has interested psychologists from very early times. Since the dawn of the new era of observational and experimental studies of the human mind through human behaviour children's drawings have worked as a nucleus for many studies. The studies made on this subject are so varied and extensive that it will not be possible within the scope of this work to take stock of all the problems studied and the conclusions drawn. This has been done by Goodenough and Harris. The article 'Studies in the Psychology of Children's Drawings: II 1928-1949' published in the issue of Psychological Bulletin published in September 1950, enumerates all the studies made in the field till 1949. The studies are classified according to the aspect stressed in studying

the drawings. Here a good number of the studies carried out are enumerated with a view to selecting a suitable aspect for the present study.

Drawing and Education:

The earliest studies of children's drawings were undertaken chiefly for the purpose of improving the quality of art instruction in schools through a knowledge of the natural order of child development.[1] The pioneer studies of Cooke, Hicks, Herrick, Pappenheim, O'Shea, Burk and the monumental work of Kerschensteiner were all directed primarily towards this end. A number of writers have attempted to analyse the physical activities and psychological factors involved in drawing with a view to improving the instructions in drawing. Meumann's investigations which are often quoted give a summary of the factors which lead to defective ability in drawing.[2] All these investigations have shown that by the age of about ten spontaneous drawings, as natural activity is almost completely given up by the great majority of children. Only those who have a special interest in it and who, either through continued practice or special gifts, have succeeded in overcoming the major imperfections in their work continue the activity. At about the age ten, the majority of children begin to be aware of the imperfections of their productions. This may be because t h e

1. Handbook of Child Psychology: edited by Murchison, p.485.
2. Handbook of Child Psychology: edited by Murchison, p.486.

child by about this time begins to develop his powers of logical thinking which has the predominant emphasis in modern education. As Read observes, "The art of the child declines after the age of 11 because it is attacked from every direction - not merely squeezed out of the curriculum, but squeezed out of the mind by the logical activities which we call arthmetic and geometry, physics and chemistry, history and geography, and even literature as it is taught".[3]

The studies of this type have led to new aims and methods of teaching drawing. The value of drawing as the medium of education was realised and two currents of detailed study evolved. Some investigators concentrated upon the teaching of drawing as an art while others studied it as an aid to general education. Many psychologists working in this field have come to the conclusion that free expression is better than rigid conformity to rules and principles.[4]

The effect of specific training or experiences on development in Art - drawing - has been studied. Kerr, accepting the importance of free expression added that

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3. Education through Art: Herbert Read, p. 166.

4. Creative and Mental Growth: Lowenfeld, Preface, p.vi, vii.

freedom of expression must be cultivated and not left to spontaneity.[5] Todd emphasised the training in a graphic vocabulary consisting of stereotyped symbols, forms and figures. Like letters of an alphabet, these forms may be combined in an almost infinite number of different ways in borders, posters and other forms of decorative designs.[6] Powel as well as her associates at the Cleveland Museum of Art and many others stressed that acquaintance with the work of great masters and instruction in art appreciation has a favourable effect on the art work of children.[7] Mott with children of school-going age and Geck with college students have observed the improvement in drawings when kinesthetic experience was added to visual or auditory impressions. Before drawing the human figure the children studied by Mott did some exercises in the form of a group game. Geck, in his study, made the students explore a modelled human head before sketching it and thus organised for the specific tactual and kinesthetic experiences.[8]

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5. Psychological Bulletin: September, 1950, p.404.
6. Psychological Bulletin, September, 1950, p.404
7. Psychological Bulletin, September, 1950, p.404
8. Psychological Bulletin, September, 1950, p.404.

Okerbloom has presented some data on the effectiveness of Hoyt Sherman's method of teaching art. The essential feature of the method consists in training students to preceive a scene or an object as a whole in which some feature is taken to be predominent with other parts subordinated to the central theme, but nevertheless dynamically related to it.[9]

Stages of Development in Drawing:

Psychological studies in children's drawings started more or less with the observation of stages of development according to the changes which take place with advancing age. During the years 1903 - 1905 Keoschens teiner was given the task of reorganising the course of study in drawing for the folk schools in Munich. In order to develop a scientific basis for his work, he spent about two years in the collection and study of approximately one hundred thousand drawings which were made for him by children in Munich and in the surrounding towns and villages. The greatest care was taken to ensure that all drawings were made according to standard instructions, and it was guarded that there were no suggestions given by teachers or copying done from other books. As a result of the careful examination of the drawings he was able to

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9. Psychological Bulletin, September 1950, p.404.

distinguish some stages of development according to the changes which take place with advancing age.[10]

These stages are verified and established with reference to various objects and aspects of drawings. Rouma established some stages of development in the drawing of the human figure. His study is an unusually thorough-going study and the results of later attempts made on similar lines do not differ significantly from Rouma's classification schemes.[11] It may be recalled here that the stages of development of the drawing of the human form as observed by Bell and Lowenfeld were quoted in the previous chapter. Leena Partridge and Goodenough have studied the incidence of various body parts being added to the human form at successive ages from 4 years to 10 years.[12]

An analysis of the drawings of simple forms such as circles, squares and triangles was made recently by Gesell and Ames. They have attempted to investigate the developmental changes with reference to direction, order and orientation.[13]

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10. Handbook of Child Psychology: edited by Murchison:p.482.
11. Handbook of Child Psychology: edited by Murchison:p.482.
12. Measurement of Intelligence by Drawings: Goodenough: p.35.
13. Child Development: Elizabeth Hurlock: p.351.

Children's Interests through Drawings:

Maitland, Gessel, Macarty and others have tried to find out the natural interests of children when asked to draw anything they wished. All of them came to the same conclusion that the human figure is the most popular object of spontaneous drawings. It is no wonder then that drawings of the human form are used in all the investigations and researches in this field.

Knauber tried to study children's drawings for studying the changes in the interests accompanying the growing age. He found that in the case of nursery school children, anything new and interesting without regard to pattern interested them most, while in the Kindergarten and first, second and third grades children preferred to draw things for which they have learnt patterns. As children grow older the subject of their drawing is influenced to a large extent by their environment and recent happenings.[14]

Meier, through his study, has drawn some conclusions regarding the effect of interest in a particular object on the drawing. Nursery school children through the third grade are not interested in naturalistic pepresentation. Objects in their drawings which are important to them are

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14. Child Development: Elizabeth Hurlock: p.353.

likely to be made larger. Objects ordinarily visible appear through walls or through a person's body.[15]

Drawing and Artistic Talent:

The studies of drawings from the point of view of art have covered a number of problems ranging from the analysis of artistic ability to the analysis of the artist's personality. Meier has studied the characteristics and factors essential for artistic ability and has listed the following: manual skill, energy output and perseveration, aesthetic intelligence, perceptual facility, creative imagination, and aesthetic judgement. He adds that the person with these six factors can bring about extraordinary artistic accomplishment and that the person without these cannot do it to any great degree.[16]

The studies done at the Cleveland Museum of Art by Manro, Lark-Horovitz and Burnhart do not agree with the opinion that the truly gifted in art differ from the generality in possessing special characteristics or combinations of characteristics. According to them the gifted differ from those with little talent in degree, but not in kind.[17]

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15. Child Development: Elizabeth Hurlock, p. 353
16. Psychological Bulletin, September, 1950, p.402
17. Psychological Bulletin, September, 1950, p.400

The thesis that artistically gifted persons are more likely to be morbid, emotionally unstable, eccentric in their habits or even psychotic has been examined by a number of investigators. Carroll, McAdory, Meier, Seashore are some of them. Their findings have failed to confirm this belief.[18]

Identification of the gifted child has been tried by some psychologists by examining the superior drawings of children. Through such a study it was found that children could be separated roughly into two groups on the basis of their drawings: viz., a group of those who showed real creative ability in art and those who were merely copyists.[19]

Cane, through a similar study, found the following four characteristics useful for identifying the gifted child: (i) the child's use of his own body (rhythm of movement, posture, etc.); (ii) the fertility of his imagination and the quality of his feeling; (iii) his ability to organise as shown in his portrayal of form and design, and (iv) his "spirit or emanation of life" which necessarily results from the interrelations of the first three.[20]

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18. Psychological Bulletin, September, 1950, p.401
19. Handbook of Child Psychology, edited by Murchison, p.487.
20. Psychological Bulletin, September, 1950, p.400

Drawings as the Measure of Intelligence:

All the workers in the field of children's drawings have recognised that a fairly close relationship exists between the progress in their drawing and their general intellectual capacity and that a child's mental level is therefore indicated in his drawings. By means of objective analysis and comparison of the drawings of several thousand children of different ages and varying educational attainments, Goodenough has given a method of scoring which is serviceable as a measure of general intellectual maturity.[21] The test and the scoring scale have been put to further investigations by many other research workers. Many of the studies lead to the conclusion that the scoring scale requires some modifications when the test is administered in different cultural environments.[22]

Drawings by the Deaf and by the Blind:

A number of persons have examined the drawings of the deaf on the assumption that the elimination of one sensory avenue may give rise to a compensatory superiority in others. Peterson and Williams, Shirly and Goodenough, and Springer have utilised the Draw-a-man Test, assuming

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21. Measurement of Intelligence by Drawing, Goodenough.
22. Studies quoted in the next Chapter of this work.

that this test not only may provide more objective evidence of compensatory mechanism than is given by subjective judgement but also may constitute a better indication of the intellectual level of the deaf than is given by tests of more verbal character. The three studies agree that the mean IQ of the deaf is somewhat below the mean IQ of the hearing.[23]

Theil examined approximately two thousand drawings made by children in schools for the deaf and drew the conclusion that the development of drawing among the deaf parallels that found for the hearing but that their progress is slower.[24]

The most important study of the art work of the blind and the weak-sighted is found in Lowenfeld's 'The Nature of Creative Activity'. His studies show the existance of two types of personality - visual and haptic (emotional) - in normal as well as weak-sighted individuals. Lowenfeld considers drawing activity as an aid to adjustment.[25]

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23. Psychological Bulletin, September, 1950, p. 393
24. Psychological Bulletin, September, 1950, p. 393
25. Creative and Mental Growth: Lowenfeld : Cases quoted in Chapter I.

Study of Personality Types through Drawings:

Modern psychologists have tried to validate the hypothesis that drawings and paintings as well as play and other forms of spontaneous activities reveal children's feelings and desires. Such activities, express not only the needs and emotions dominant at the time but also the deep-rooted and lasting characteristics.

Lowenfeld in his work already referred to has studied the art of the blind and weak-sighted with a view to finding out the nature of creative experiences. The mental process in a subject while drawing and the reasons determining his manner of drawing indicated two sources of experiences leading to creative activity. The one is visual or optic which has its origin in visual or other types of perception and the aesthetic pleasure experienced thereby. The artist attempts to reproduce the object as it appears and thus conveys similar pleasure to others. The other type of experience is haptic which is personal. It consists of the feelings and emotions aroused by the total situation; the artist attempts to convey his feelings in his work. Haptic type of drawings differ from the optic type of drawings by their being more faithful to some definite core of meaning than the objective appearance. The meaning is generally discernible

to an outsider; there is centralisation of attention upon those features that convey the meaning with corresponding neglect of other parts that are equally open to visual perception. In the preface to the second edition of his book, he states, "It is quite obvious that it would disturb and greatly inhibit a visually minded person to be stimulated only by means of haptic impressions, or to be asked not to use sight and orient himself only by means of touch, bodily feelings, muscular sensations, and kinesthetic fusions. It is, however, not clear that 'seeing' may also become an inhibitory factor when forced upon an individual who does not use his visual experiences for creative work.[26]

Harms has tried to differentiate the personality types on the strength of the nature of lines drawn to represent certain words such as "walking", "cry", "silent" etc. After studying approximately ten thousand subjects ranging in age from the Kindergarten to the adult level he eventually delimited six forms, viz. (i) monographic, (ii) cursive in which the same figure was repeated several times in running line, (iii) pictographical, (iv) script, in which a long line was drawn

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26. The Nature of Creative Mind: Lowenfeld, pp.xx,xxi.

with undulations or circles such as to suggest writing, (v) spatial in which the subject attempted to convey the quality by a change in the direction or form of the line and (vi) final in which the only guiding principle seemed to be that of bringing the line to an end. Although the study is one of the most carefully worked out in the field, still how far the method will be useful in actual differentiation of types is not yet decided.[27]

Study of Personality through Drawing:

The significance of drawing as the expression of self concept has been discussed by Dallinger and Wolff. They suggest that the child's drawing of his family may show how he feels about his status in that group.

Wolff has developed the conception of the Rhythmic Quotient, or R.Q., and used it to judge the stability in the child's personality. He maintains, "Conscious and unconscious organisation, logical and artistic abilities seem to have these two channels of expression, intelligence and rhythm."[28] He further suggests: "A discrepancy between I.Q. and R.Q. indicates

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27. Psychological Bulletin, September, 1950, p.409
28. The Personality of the Preschool Child: W. Wolff, Chapter VII.

an instability of personality which may originate either in an overstraining of intellectual functions (self-consciousness, sophistication) or in a chaos of emotional drives. In the majority of cases I.Q. and E.Q. are interrelated, but it is the degree of interrelation that counts, and that can be estimated only considering the value of all constituent elements."[29] He has also given a list of graphic elements in children's drawings and their significance in terms of personality characteristics. The elements are based upon the appearance of the strokes and form:e.g.

The realistic type

Appearance	Significance
preference for contours	visual type
preference for curves	auditory type
preference for contrast	emotional type
broad pressure	aggressiveness etc.etc.

The abstract type

Appearance	Significance
lack of exactness	more dreamy
preference for angles	tension, private world
schematism of movement	rigidity
overexactness	submission etc.etc.

The study was made on only individual cases and there is no objective evidence for the validity of these relationships.

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29. The Personality of the Preschool Child: W.Wolff, pp. 223, 224.

Read has analysed the different styles in modern and ancient art with a view to finding out the correspondence between style and temparament. He concluded that a general classification according to psychological types of personality is possible. He has described the characteristics of each of the four styles - realism, superrealism, expressionism and constructivism - with subdistinctions of subjective (introverted) and objective (extroverted) in each style and has shown how these eight styles in art correspond to Jung's general attitude types.[30]

Machover elaborates a theory based on the hypothesis that the self is projected into drawings of the human figures and that interpretations can be basedon direct analogy.[31] Broom and Goitein believe that a subject self-portrait, drawn while blindfolded will reveal in the distortions certain characteristic personality 'needs'.[32]

Elkisch studied critically the drawings of eight children, four of whom were popular with their playmates and four unpopular. She developed a method of scoring by which a child's social qualities might be diagnosed. She used the following criteria: rhythm and rule, complexity and simplexity, expansion and compression, integration and

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30. Education Through Art: Herbert Read, p. 97
31. Psychological Bulletin, September, 1950, p.407
32. Psychological Bulletin, September, 1950, p.407

disintegration, and realism and symbolism. She attempted to consolidate the criteria on an objective basis, but found that there was little possibility of completely evading subjective elements in evaluating the drawings. She observed that 'the fact that each of the criteria may appear under a positive or a negative aspect, requires experience and insight from the investigator and even more specifically a responsiveness to graphic expression and their peculiar gestalt. Such a qualification cannot be derived from standardised objective measure." She further concludes that the criteria would become meaningless or even misleading if they would be employed mechanically".[33]

Lembke compared the drawings of seventeen pairs of children selected by their teachers as being the boldest and the shyest in their classes. He used colour as the point of comparison. The differences which he noted run contrary to what might be expected on the basis of surface reasoning. The shy children used brighter colours than the bold, and showed a definite preference for complementary colours. The bold children used darker colours in several cases a combination of violet and dark brown. The number studied is too small to draw generalisations.[34]

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33. Psychological Monograph, 1945, 58, No.1, pp.1-31.
34. Psychological Bulletin, September,1950, p. 408.

Bender and Rapoport divided the animal drawings of children into two categories, aggressive and non-aggressive with several sub-categories under each head. Their conclusions are questionable because of the small number of cases studied although the procedure is suggestive.[35]

Alschuler and Hattwick noted developmental shift in colour preferences, younger children preferring warmer colours (red and yellow), older children preferring cooler colours (blue and green). They were also impressed by the revealation of personality traits through paintings. They observed that the child who overemphasised colour had a strong emotional orientation. Line and form, on the other hand, indicated the nature of the child's emotional control.[36]

Schiebe was interested in determining how children depict states of feeling in their drawing. Children of ages four to eighteen were asked to draw tree, cold tree, happy tree etc. etc. Comparisons were made in terms of height and width, the direction, the direction in which the branches typically pointed and a number of other features. The children were then asked their reason for

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35. Psychological Bulletin, September, 1950, p.413.
36. Child Development: Elizabeth Hurlock, p. 597.

making the kind of drawing. Recall or imagination of their own kinesthetic sensations under similar conditions was a typical reason given.[37]

Study of Symbols:

Attempts have been made by child psychologists, who have been strongly wedded to the psychoanalytic theory, to ascertain classes of symbols which can be commonly accepted in the interpretations of children's drawings e.g. smearing of colours should be accepted as a sign of anal eroticism, that a preference for red should be thought to indicate feelings of aggression, or that excessive use of dark brown or black should denote depression. Many of symbols which are being accepted by those who are using drawing as a projective technique are easily understandable in terms of common adult association, but little evidence is available beyond that of selected case histories. The drawings made by these children may or may not be representative of those made by others whose behaviour is similar. There is good reason or evidence to suppose that the symbolic language of children is universal. It may well differ from one child to another. If this is true then the only generalisation possible is in terms of principle and not of specific symbols.[38]

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37. Psychological Bulletin, September, 1950, p.406.
38. Psychological Bulletin, September, 1950, p.405.

Drawing as Therapeutic:

Drawing as a therapeutic treatment for maladjusted children has been discussed in several studies. In general, the theory assumes that the drawing serves as a form of mental catharsis whereby the child works out his difficulties or gives vent to his pent up feelings and emotions. The leading exponent of view is Naumburg.

Bender stressed the value of art work as a diagnostic and therapeutic medium for those who find it difficult to express themselves verbally.[39]

Many psychologists have used drawings as a means of establishing rapport between the child and the psychiatrist. Appel has described an interesting method of utilising drawing as an aid to securing free verbal expression from a child in the course of an interview. The procedure involves alternate drawing by the child and psychiatrist with gradual approach to the more intimate details of home-life about which children are often unwilling to speak freely.[40]

Ruth Griffiths in her study of children's imagination used drawings as a means of directing their thoughts into

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39. Psychological Bulletin, September, 1950, p. 412.
40. Psychological Bulletin, September, 1950, p. 406.

subjective channels. During the interview whenever a child became silent he was offered a sheet of brown paper and coloured pastels, and it was suggested he should drow. She noted that just placing the paper before him was sufficient to arouse in the subject a desire to express something of his thought in his drawing.[41]

Sex Differences:

Qualitative and quantitative differences in drawings of boys and girls have been noted by a number of investigators. Kerschensteiner, Ivanoff,[42] Burt, Theil, Lowering and Goodenough are some of them who might be mentioned here. Qualitative studies were done by Goodenough, Burt, Ivanoff and others with reference to orginality, colour, proportion, observation, perspective etc., after inspecting the drawing as a whole. Quantitative studies were done with reference to the choice of subject, number of drawings made etc. by Goodenough, Baumgarten and Tramer, and others.[43]

The qualitative and quantitative studies made have observed certain marked differences in the performance of the two sexes. Most of the studies do not support the popular opinion that girls excel boys in the facility of

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41. Imagination in Early Childhood: Ruth Griffiths, p.22.
42. Handbook of Child Psychology: edited by Murchison, p.493.
43. Kinderzeichmingen: Baumgarten and Tramer.

expression and performances of an aesthetic nature. Results in favour of girls were, however, observed by Goodenough in her study on her objective scoring scale.[44]

Primitive Art & Cultural Difference:

At the earlier stages the investigators of children's drawings have found that children's drawings have many features in common with those drawings made by pre-historic men.[45] Comparisons of the two items have been made by Van Genep, Grosse, Rouma and others. There is little agreement either in their points of view or in their conclusions. Those who incline towards the theory of recapitulation usually emphasise the primitive nature of both types of drawings and their common failure to represent space. Some believe that the resemblances which exist are more apparent than real.

Correspondence between children's drawings and primitive art is not supportted by recent research workers in the field, for the obvious reason that it cannot be valid. Goodenough has expressed her view in the following words: "It is obvious that no really valid comparison can be made between the paper and pencil drawings of the modern

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44. Measurement of Intelligence by Drawings:Goodenough, p.56.
45. Measurement of Intelligence by Drawings:Goodenough, p.10, 11.

child and those which a prehistoric man smeared on rock walls with a finger dipped in wet clay, or carved out by means of a piece of flint. Moreover, we have no way of knowing what purpose these prehistoric drawings were intended to serve. A carefully executed piece of work which is intended to be an accurate representation of a given object is a very different thing from the hasty sketches which are frequently made by way of giving point to an idea or merely for amusement. We have no reason for believing that the specimens of prehistoric art which have chanced to be preserved are in all cases the best which prehistoric man produced, and there is still less ground for the assumption that he could have done no better if he had been provided with the tools which are at the disposal of the modern child. When in addition to these factors, we consider the unknown but probably very great influence that is exerted upon the present-day children by the pictures found everywhere in their environment, the uncertain ground which underlies even the most tentative comparison between work done under such widely disparate circumstances becomes evident.[46] In modern times prehistoric art is studied for its own sake and for the light it can shed upon the culture of the times.

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46. Measurement of Intelligence by Drawings:Goodenough,p.56.

Comparative study of drawings of children of similar age but of very different culture has interested a number of investigators. Taylor studied the drawings of young students in Central India of various castes and religious groups. He says that considering all the evidence it is clear that cultural differences do appear to a greater or less extent in the drawings of children.[47]

Research done in India and the Present Problem:

Psychological research in India is done mostly at the university centres. Due to lack of co-ordination of work the studies that are made remain isolated. Research workers are either university students or teachers who incidentally take up a problem and try to study it from a practical point of view. It is inevitable that under the circumstances there is dearth of any outstanding research throwing new light on problems and psychological theories.

The study of children's drawings is a specific study of a particular activity. It naturally requires a background of normal studies and observations of children. Even today there are very few reliable basic tools available

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47. Psychological Bulletin, September, 1950, p. 399.

for psychological research. Even a group test of general intelligence - verbal or performance - which is a primary requisite for any psychological or educational study of children is not available in many of the regional languages. The majority of primary school teachers are not in the know of such tests and their utility in schools.

This is not all, many of our primary schools are poorly staffed and equipped and the records of pupils maintained by them are so scrappy that one cannot get easily the necessary information about the child's family, environment, and his self. How far the information secured with great difficulty will be reliable is also problematic. Child Guidance Clinics, observation or counselling centres in hospitals and schools are also rare. Hence the investigations and verifications of observations which require a continuous vigilant work spread over a number of years are avoided by the few workers in the field.

Spread of Interest in Child Art:

Although the picture of research facilities appears depressing, there is now a new awakening noticeable in teachers and educationists who are becoming research minded. The enthusiasm and interest in the study of

children is now very much on the increase. Workers in the field are getting conscious of the importance of child study which is indispensable to a proper understanding of children. A keen interest in the study of child art is also noticeable with some workers. Some centres for children's art have been started where enthusiastic workers are trying to study the child from the point of view of his interest and participation in art. Exhibitions and competitions are organised with a view of bringing to the notice of the public the importance of spontaneous drawings of children and of encouraging them to continue their activity freely and with the same or added interest. Occasionally we get specimens of children's art and articles describing its nature and importance in magazines of general interest. Educationists interested in the teaching of art and craft are trying to apply psychological methods to the teaching of Arts and Crafts in Indian schools. Guy Hellier in her latest book 'Indian Child Art' has tried to bring out the importance of preserving and developing the interest of children in using drawing as an aid to expression.

Research done in India:

An attempt was made by the present writer to collect information about the studies done in India in which

children's drawings are either studied directly or are used as an aid to the study of some other aspect of child life. Some of these works have not yet been published.

A.K. Minakshi submitted her thesis on Children's Drawings in 1946 for the degree of M.Litt. of the University of Mad- She took up the study with a view to finding ou- -r the western observations and findings al -ildren's drawings are also true of an unselected group of Indian children of the Madras city; (2) whether there was any striking difference either in the interests or in the rate of mental development or in general mental structure. She collected drawings of children ranging from six to twelve years who belonged to schools in the city of Madras. The drawings were on three themes, viz., (i) a free composition drawing, (ii) favourite activities of boys and girls, (iii) the milking scene with the cow and the calf. After studying the individual drawings and also those of groups according to age and sex, she drew the following conclusions :

1) On the whole the results have agreed with the findings of other investigators.
2) There are differences with regard to likes and dislikes which seem to be natural because of the effect of cultural influences.

Minakshi feels that studies of this type will help (i) to gather facts for the study of child psychology, (ii) as spade work for the construction of intelligence tests for the children of a particular area.

Differences through Drawings:

Taylor studied the drawings of young college students in Central India. He used Abel's method* for his study. He found a much smaller percentage of drawings to what Abel termed the "Schizophrenic type". Taylor noted that the Hindus and Jains showed less unity in their drawings than the other groups. Cultural influences seemed to persist even after several years of common school training which is similar for all sects. However, the numbers in many cases was too small to make the comparison between sub-groups very reliable.[48]

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* Abel's method : Abel controlled the technique to be used in drawing, rather than the task. She permitted the subject to draw whatever he wished but limited him to the use of 19 straight lines and 6 curved lines, which were to be placed in a longitudinal rectangle of four inches by six inches. She used schizophrenics, normal high school boys and girls, industrial high school girls, Navajo Indians, Balinese and subnormal subjects.

48. Psychological Bulletin, September, 1950, p. 398.

In an article published in Teaching,[49] Madhubhai Patel has described the sex differences in children's drawings. He noted marked distinctions in their tastes and temperement, emotions and expressions, and intelligence from the age of seven onwards. In the article he has neither given the number of cases he had studied nor the application of statistical methods for correct interpretations. His observations may be taken as indication of differences that might be existing, but they cannot be taken as established facts even for children living in Bombay.

Attempts to Establish Norms:

A. Datt attempted to establish a series of norms or 'standard of excellence' with reference to Bengali children. The human figure was used as the subject of drawing. The drawings of nearly 300 children of different ages were analysed and the separate elements and the significant features of different ages were tabulated. The norms were established after a careful and minute measurement of the relative proportions of the various parts of the drawings and by thorough examinations of the spatial relationships of these different parts.[50]

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49. Teaching, June, 1950

50. Proceedings of the Indian Science Congress, 1935: Part III, Abstracts.

Another attempt to establish norms on drawing scores was made by Emil W. Menzel. He started his work in 1932. He administered the Goodenough Draw-a-man test to 2600 children ranging in age from 6 to 20 years in the Central Provinces. All social classes were included in the experiment though the majority of subjects belonged to the peasant classes. The drawings were scored not strictly according to the standardised procedure. A slight change was made by scoring slightly leniently the amount of clothing indicated in the drawing. This was thought advisable, since a scantier amount of clothing is generally worn in India. This change was not expected to influence the score more than one per cent. In the article published by Menzel[51] he has not mentioned the details of the manner in which the scoring was made lenient. The drawings were classified according to the age and grade. Average scores per age group and per grade group were calculated. The increase in grade-wise scores was 50 per cent more progressive than the increase age-wise. The difference in the scorings of successive grades was that of three points while it was 2.5 points in the successive ages. Menzel has drawn the following conclusions from his study :

1) The Goodenough drawing test is adaptable in India as a tool for the objective measurement of intelligence of larger groups for survey purposes, and may

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51. Teaching, June, 1935, pp. 165-175.

prove useful for use with individuals when supplemented by additional information.

2) Indians do not make as high scores on this test as Americans of the same age.

3) Since the differentiation of the performance of the various age groups is not as marked in India as in America (two points increase per year for the former as against four for the latter), the Indian scale is consequently somewhat less sensitive and more subject to inaccuracy. This is a difficulty all intelligence tests seemingly have to face when applied in a backward environment.

4) Tentative norms based on 2,600 cases are as follows:

TABLE 2

Norms for India and America

Age	India	America
6.5	9	14
7.5	11	18
8.5	13	22
9.5	15	26
10.5	17	30
11.5	19	34
12.5	21	38
13.5	23	42
14.5	25	
15.5	27	

5) Some comparisons with other racial groups tested on the Goodenough and other scales have been made. Though interesting, these comparisons are not held to be valid as an index of comparative mental power, for the great difference in environmental background and the imperfection of the measuring instruments do not permit a valid comparison. But they do suggest that the handicap under which the Indian pupil labours is a considerable one.

6) The difference in the performance of Indian and other races suggests that educational standards and practices cannot be imported from other countries without thorough-going modifications and adaptation which takes into account the handicaps and advantages under which Indian pupils work.

7) It is to be borne in mind that the norms submitted are for the Central Provinces. Very probably norms will vary from province to province. It will be interesting to find out if more progressive provinces, like the Punjab require higher norms.[52]

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52. Teaching, June 1935 : A Tentative Standardisation for India of the Goodenough Intelligence Test: E.W.Menzel, pp. 165-175.

Taking up the suggestion from Menzel, P.W.Shrimali repeated a similar experiment in Mewar schools. In 1944-45 he gave the Draw-a-man test to 2500 persons from various schools in Mewar ranging in age from 3 to 25. The norms were calculated according to the age and grade. The norms are compared to the norms calculated by Menzel and the following conclusions are drawn :

1) The Mewar school population is slightly different from the C.P. school population as regards the performance on the Goodenough test. (i) The increase in score from grade to grade is three points in C.P. school population and only 2.5 points in Mewar school population. (ii) The increase in score year to year is the same i.e. two points per year in both the experiments but C.P. school children score two points less as compared to Mewar school children of the same age. This difference is partly due to the fact that C.P. school children are more retarded than Mewar school children.

2) The conclusion of Menzel that Goodenough test is adaptable for use in India is supported.

3) The following are the tentative norms on the basis of mixed school population of Mewar".[53]

TABLE 3

Age Norms for Mewar Children

Age	Norms
6	10
7	12
8	14
9	16
10	18
11	20
12	22
13	23
14	25
15	27

Although Menzel and Shrimali do not include the grade norms in their conclusions Shrimali has compared the studies in this respect. The following table is prepared from both the studies to give the significant observations.

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53. The Punjab Educational Journal, April 1947: Measurement of Intelligence in India: P.L. Shrimali.

TABLE 4

Scores by School Grades

Grade	Expected age (Normal)	Average age Mewar	Average age C.P.	Mean score Mewar	Mean score C.P. (With S.D.)
Infant*	6.5	8.99	8.6	12.0	9.83± 2.7
I	7.5	9.68	10.6	14.5	12.63± 5.0
II	8.5	11.07	11.2	17.0	14.95± 6.15
III	9.5	11.72	12.4	19.5	17.8 ± 6.5
IV	10.5	12.27	14.0	22.0	22.92± 7.25
V	11.5	12.96	14.9	24.5	26.55± 7.8
VI	12.5	13.71	16.3	27.0	28.4 ± 7.75
VII	13.5	14.95	16.6	29.5	31.8 ± 8.45
VIII	14.5	15.20	--	32.0	-- --

The differences in the expected ages per grade and the actucal age in both the study groups make the grade norms unreliable. This disparity might be due to the great range of age in both the studies. The age range of Menzel's study was from 6 to 20 years while that of Shrimali was from 3 to 25 years. If the authors would have taken a normal group from the point of grade placement the results would have been more reliable.

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* Infant grade is equivalent to grade I in Menzel's study.

Incidental Study of Drawings:

There are some investigations in which children's drawings are studied as a part of a larger or some different problem. Mira Sen, a student of the Calcutta University studied drawings when investigating some aspects of mental life of the children. She collected the controlled and uncontrolled drawings of 100 children varying in age from 3 to 12 years. All except 5 or 6 were school-going children. The group consisted of 40 boys and 60 girls. Drawing of a full human figure was selected for controlled drawings. These drawings were analysed according to the development scale suggested by Burt in his book 'Mental and Scholastic Tests'. The drawing age was compared with the mental age on Terman and Merril's Individual Intelligence Test. She found a perfect correlation between the mental age and the drawing developmental stages. She also observed that though the average, gifted or backward child of the same M.A. reached the same stage of development, there was some marked difference between the pictures of the bright children and the backwards. The bright children were always apt to draw the picture in greater detail, the backward on the other hand, were more succeptible to ommissions and most often they forgot to draw the mouth.

Another issue which Sen studied was the variations in the mental age according to the successive drawings

spread over a short period. She collected the successive drawings of the human figure of two children for ten days. The study was parallel to that of Griffiths. Contrary to Griffiths' findings Sen found the I.Q. to be constant on Goodenough's Draw-a-man Scale. She therefore applied the scale of development stages as noted by Griffiths. In both the cases studied a marked progress was observed within the time limit of ten days.

The free-hand or uncontrolled drawings were used by Sen to study the children's interests as expressed in drawings. She collected 300 free-hand drawings from 100 children. The order of popularity of various objects observed in her study was slightly different from what was observed in other Western and Eastern studies. In all these studies the human form was found to be most popular. Sen found the order of popularity as follows:

(i) plants (ii) animals
(iii) house (iv) human figure.

Sen observed some differences in the drawings done by boys and girls. She found that on an average boys do greater number of drawings than girls at each age. Another point she noticed was that girls repeated the same object in their drawings more than boys.[54]

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54. Unpublished work secured through the favour of Shri G. Pal, Calcutta.

B.A. Joseph studied the personality problems of some deaf and dumb children in two schools for the deaf and the dumb in the city of Madras. He used drawings as one of the means of studying the personality problems. He collected drawings from a group of 60 children consisting of forty boys and twenty girls of 13, 14 and 15 years of age. Three drawings of the following nature were collected from each student: (1) a free drawing of anything they wished, in pencil; (2) a drawing of some person doing some action, in pencil; (3) a drawing of some person doing some action, in crayons. The drawings were studied to find out (i) whether loss of hearing had any effect in the drawing of the ear in human figure, (ii) whether egocentricity and social immaturity could be detected in their drawings; (iii) what their colour preferences were; and (iv) what interests and aptitudes were suggested in their drawings.

The author has not drawn any general conclusions, but has studied the various aspects quantitatively and has tried to explain his observations by referring to psychological theories about personality problems. It is however, worthwhile to note some of his observations. They are listed below:

1) In 56.6 % of drawings the ears were missing while in 11 % of them they were drawn very big.

2) 41.7 % of the drawings referred to their home personnel, indicating the ego-centricity or lack of affection felt in the school.

3) Green, red and brown were the colours preferred by the children under study. Minakshi had found them to be blue, green and brown with normal children.

4) The order of popular themes for drawing was as follows: (i) human figure, (ii) birds, (iii) mechanical objects such as train, car etc., (iv) household utensils, vegetables, fruits etc., (v) landscape. Most of these themes pertain to the immediate environment of the pupils.

5) The following activities were chosen by the children under study in the order given: (i) play, (ii) work - garden, field etc., (iii) household activities, (iv) outside activities — driving, traffic and policeman etc., (v) school.

6) The colour preferences and the choice of themes agreed in indicating extroversion which was also marked in the Introversion - Extroversion Test.

7) Weak social development is indicated by many drawings of work being done individually.

8) Sex differences in the drawings were observed in (i) the decorative aspects of the picture. The boys seemed to be of the matter of fact type and

(ii) outside activities as boating, riding etc. were drawn more by boys while girls confined to the school and home environment.

9) An attempt was made to classify drawings into personality types such as Haptic, Decorative, Imaginative, Organic, Structural etc.[55]

M.P. Vaidya in his study of the effect of bilingualism on the mental development of children has used Goodenough's Draw-a-man Test as a measure of development of children. He agreed with Menzel in simplifying the scale for Indian children and reduced it to twenty points for his use. The simplified scale correlated positively with other individual and group tests he had used. He thought the test to be enjoyable to children and easy for the examiner to handle.[56]

Present Problem:

In Western countries where psychological research has made considerable advances, the present day tendency is to study children's drawings as an aid to the understanding of the child mind. Although the facilities for

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55. A Study of Personality problems of Some Deaf and Dumb Children: B.A. Joseph: Unpublished thesis submitted for Master's Degree of Madras University: 1953.
56. Bilingualism in Education: M.P. Vaidya: Unpublished thesis for Ph.D: Bombay University, 1953.

research are available in these countries there are no drawing tests of personality which are absolutely objective. The methods used in most of the studies are case study and continuous personal observation. It was felt by the present writer that these methods will not lead to any reliable results as the necessary facilities to observe children and to get all the relevant information about them are not available in India.

The most objective scale that is based on pure drawing is that of Goodenough's Draw-a-man Scale. As Goodenough herself evaluates it, it is 'servicable as a crude measure of general intelligence when used with children coming from reasonably similar culture, although it cannot serve as a satisfactory substitute for individual tests of the Binet type.[57]

A critical study of the test and the works of Menzel and Shrimali made it clear that if the test is properly adapted to Indian conditions and standardised, it could be applied to our children and would serve a good purpose. The possible educational and practical advantages of the test can be listed as follow:

1) The test will be helpful to the teachers in the primary schools in getting a rough but quick

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57. Psychological Bulletin, September 1950: p.399.

estimate of the general intelligence of the children for the purpose of classification for instructions.

2) Although the test will not be able to discriminate between the individuals still it is likely to indicate the group of children who require an earlier attention for further adjustment.

3) The test can be used as a group test as well as an individual test.

4) It takes only about ten minutes to administer the test to a group of twenty children.

5) It requires only simple and handy material - just a paper and a pencil.

6) The general instructions are very simple and can be easily translated into any Indian language without affecting the efficiency of the test.

7) It is likely that the test will prove to have some clinical value besides measuring intelligence.

It was decided therefore, to study the Draw-a-man Test in the Indian situation and to develop a scoring method suited to the performance of Indian children.

Summary:

Psychological studies on children's drawings have been carried out during the last fifty years and the

various studies can be summarised under the following aspects:

1. Drawing and education.
2. Stages of development as observed in drawings.
3. Children's interests through drawings.
4. Drawings and artistic talent.
5. Drawing as the measure of intelligence.
6. Drawings by the deaf and blind.
7. Study of personality types through drawing.
8. Drawing as projection of personality.
9. Drawing as therapeutic.
10. Sex differences observed in drawings.
11. Cultural differences in drawings.

Research done in India may be summarised under the following heads:

1. Direct studies of children's drawings.
   (i) Verification of stages of development observed by Western psychologists.
   (ii) Interests of children as indicated by drawings.
   (iii) Tentative norms on Goodenough Draw-a-man Test.
   (iv) Cultural differences in drawings.
   (v) Sex differences.

2. Indirect studies of children's drawings.

(i) Mental life of children.

(ii) Personality problems of some deaf and dumb children.

(iii) Effect of bilingualism on the mental development of children.

The survey of the work has led to the decision that Draw-a-man Test be studied and a suitable scoring method for performance of Indian children be developed.