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A Study on Children's Drawings

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horse-car. As a result of the class-room work, a committee was organized among the students for systematic infant study. This committee made periodic visits to the Brooklyn Nursery, where there were eighty-three children under three years of age. They also began the preparation of a syllabus for the class study of infants. This syllabus is to furnish a list of simple tests and observations that may be made without exciting the alarm of parent or guardian. Precautions here are especially needful. The curator, who was adroitly negotiating for James's successor, protested to one mother that the child would not be taken from her. She should carry it home at the end of an hour. "But what good would it be, all cut up?" cried the terrified woman.

The work already accomplished on the syllabus has been the selection of all available material from Preyer's "Mind of the Child." To this will be added suggestions from the records of other observers, and tests devised by the students.

Infant observation is not only an invaluable scientific basis for the study of psychology, but an effective agency in developing the human sympathy of the observer. As an influence tending to foster elements of character that are threatened with atrophy in the absorbing pursuit of high scholarly ideals, it suggests a possible solution of one problem of advanced education.

ADELAIDE E. WYCKOFF,

Teacher of Psychology and Physiology.

The Packer Collegiate Institute, July 20, 1893.

A STUDY ON CHILDREN'S DRAWINGS.

So long as a child is perfectly inactive he is useless for purposes of psychological study. We can never get inside of him to study his subjective activity. We must wait for him to come out to us through some of his forms of expression. Drawing is one of these ways in which a child comes out to meet the world; and this study was undertaken in the belief that through a child's drawings we could learn something of the way in which he thinks and feels. Incidentally the study should also throw a good deal of light on the part which drawing plays in a child's life, and on the part which it should play in the school-room.

It seemed desirable in collecting drawings that they should have some common element that would enable us to compare them and reach some large generalizations; accordingly a little poem was selected for illustration. It was taken from *Der Struwwelpeter*, and was called *Hanns Guck-in-die-Luft*. The following English translation was used:

STORY OF JOHNNY LOOK-IN-THE-AIR.

As he trudged along to school,
It was always Johnny's rule
To be looking at the sky
And the clouds that floated by;
But what just before him lay,
In his way,
Johnny never thought about;
So that everyone cried out -
"Look at little Johnny there,
Little Johnny Look-in-the-Air."

Running just in Johnny's way,
Came a little dog one day;
Johnny's eyes were still astray
Up on high in the sky;

And he never heard them cry—
 "Johnny, mind, the dog is nigh!"
 What happens now?
 Bump!
 Dump!
 Down they fell with such a thump.
 Dog and Johnny in a lump!
 They almost broke their bones
 So hard they tumbled on the stones.

Once with head as high as ever,
 Johnny walked beside the river.
 Johnny watched the swallows trying
 Which was cleverest at flying.
 Oh! What fun!
 Johnny watched the bright, round sun
 Going in and coming out;
 This was all he thought about.
 So he strode on, only think!
 To the river's very brink,
 Where the bank was high and steep,
 And the water very deep;
 And the fishes, in a row,
 Stared to see him coming so.

One step more! oh! sad to tell!
 Headlong in poor Johnny fell.
 The three little fishes, in dismay,
 Wagged their heads and swam away.
 There lay Johnny on his face,
 With his nice red writing-case;
 But, as they were passing by,
 Two strong men had heard him cry;
 And with sticks, these two strong men
 Hook'd poor Johnny out again.
 Oh! You should have seen him shiver
 When they pull'd him from the river.
 He was in a sorry plight,
 Dripping wet, and such a fright!
 Wet all over, everywhere,
 Clothes and arms and face and hair;
 Johnny never will forget
 What it is to be so wet.
 And the fishes, one, two, three,
 Are coming back again, you see;
 Up they came the moment after,
 To enjoy the fun and laughter.
 Each popped out his little head,
 And to tease poor Johnny, said,
 "Silly little Johnny, look,
 You have lost your writing-book!"
 Look at them laughing, and do you see
 His writing-book drifting far to sea?

This story was selected because it was simple, short, contained no difficult objects to draw and contained two distinct catastrophes. Besides this, the story was originally developed by Dr. Hoffmann in his medical practice, as the result of a careful study of children's interests, and so would presumably appeal to the children.

The children were given paper and pencils, and after writing their names and ages, they listened while the teacher read the poem to them. They were then told that they were to draw one or more pictures from the story, and it was read to them once more. There was no conversation, and no other directions were given. The drawing occupied from fifteen minutes to an hour, and when completed the papers were forwarded to me. Papers were sent in from 6393 children, mainly from California, though a few hundred came from the middle and eastern states. Different ages from six to sixteen were about equally represented; and about as many papers came from the country as from the cities; 15,218 distinct scenes were drawn.

These pictures were collated with a view to determining what scenes were most often drawn, at what age the children drew the greatest number of pictures, whether the girls followed the same lines of interest and development as the boys, and whether there was any law governing the drawing of full-faces and profiles.

They were first collated to see what parts of the story appealed most powerfully to the children. There are nine possible scenes that may be drawn from the story: Johnny going to school, approaching the dog, falling over the dog, approaching the river, falling into the river, floating in the river, being rescued, dripping on the bank, going home. Other incidents may be made up. Nearly all who hazarded an opinion on the subject, before the returns were collated, said the children would draw the catastrophe scenes, where Johnny falls over the dog and into the river. But in twenty-four curves which we plotted, representing both sexes from six to seventeen years old, there were always three important scenes that stood out above all the rest, and these were: Approaching the dog, approaching the river, and the rescue scene. The scene most often drawn is Johnny meeting the dog; the rescue scene is almost equal; and approaching the river comes third.

The accompanying table illustrates the same points. The catastrophe scenes are less often drawn than the scenes just preceding them.

TABLE SHOWING HOW MANY CHILDREN, OUT OF 1000 OF EACH AGE, DREW THE DIFFERENT SCENES.

Upper Row, Boys.

Lower Row, Girls.

AGES.	6 yrs	7 yrs	8 yrs	9 yrs	10 yrs	11 yrs	12 yrs	13 yrs	14 yrs	15 yrs	16 yrs	over 16 yrs
Going to school.	84 152	118 174	92 156	82 218	172 172	110 174	165 170	165 208	154 185	116 196	172 109	145 132
Meeting dog.	344 384	360 514	588 425	565 607	585 497	645 577	674 588	669 325	731 672	657 699	702 588	623 558
Falling over dog.	104 79	154 100	172 134	170 232	230 176	345 244	364 268	406 312	417 329	489 413	496 414	391 367
Approaching river.	214 128	242 177	262 211	272 355	315 262	326 374	350 381	372 410	451 469	394 524	453 414	580 338
Falling into river.	97 24	39 55	92 54	137 109	125 130	145 156	204 141	218 189	150 143	175 201	248 87	188 147
Floating in river.	227 176	220 244	224 179	190 294	215 147	229 197	263 163	187 221	301 269	255 280	270 381	130 235
Being rescued	344 225	352 366	422 304	390 383	432 302	491 330	534 388	506 400	520 363	518 413	496 392	406 338
Dripping on bank.	45 134	66 144	115 92	200 196	177 134	189 169	274 194	294 267	275 182	328 270	313 338	145 323
Going home.	7 6	4 18	6 6	10 8	25 8	10 36	14 9	5 13	8 3	7 5	21 9	14 12
Added scenes.	143 164	83 111	44 150	60 42	57 96	56 78	36 48	11 20	8 31	7 42	43 21	87 64

The most obvious explanation of this fact is that the catastrophe scenes are harder to draw than the passive scenes just preceding them; but ease in drawing is not the determining factor, for the rescue scene is the most difficult of all to draw, and yet there is but one other scene more commonly drawn.

Presumably, other things being equal, a child will draw those scenes which most interest him; and if the two scenes which pre-

cede the catastrophes and the rescue scenes most interest the children, then two important inferences follow. In the first place, we can say that children, like well-bred adults, care most in story or drama for that part which leads up to the climax; the balancing of forces and the time of suspended judgment are more attractive than the vulgar blood-curdling detail of the catastrophe or the orthodox — "and after that they all lived happily." This is very important in its bearing on children's literature. In the second place, it would seem that in children the feeling of mercy and helpfulness is much more prominent than the desire to destroy. With children of all ages and both sexes, twice as many drew the rescue scene as the catastrophe; though there was nothing about Johnny that would especially win the sympathy of the children, on the contrary, his general incompetence would prejudice the children against him.

In the second place, the data were collated to show the number of scenes drawn by the children at different ages. At six years old, they drew an average of one and six-tenths scenes. As they grow older, they draw more and more scenes until the girls are thirteen and the boys are fourteen, when they draw a little more than three scenes each; from this time on, they draw fewer scenes until they are seventeen, when they draw only two and four-tenths scenes each. This would seem to indicate that girls at thirteen and boys at fourteen become less daring in expression. The children who declined to draw at all were all over thirteen. Other studies carried on in this line seem to indicate that at thirteen, or the period of puberty, the children experience a change of ideals, and it may be that after this they realize more fully their inability to execute what they see. In any case, this study shows that our children are less daring in expressing themselves by drawing after puberty than before, and this change comes a year later with California boys than with girls.

A third study was made on Johnny as a detail. With a child of two years, he is a mere scrawl, promptly named Johnny. The first part of his anatomy to emerge clearly is his circular head, with eyes and a mouth. Arms and legs sprout forth from his head, and then a line joining the two legs develops a body. With all very young children, the face is drawn full. In our experimental kindergarten, where the children had no instruction in drawing figures, they drew many faces, but no profiles for several months. Gradually the children change to profiles, but in the transition stage many draw a profile outline and fill it in as though it were a full-face outline.

With a view to determining the general law, 12,740 faces were collated from the Johnny pictures drawn by children from six to thirteen years old. At six years, twice as many full-faces were drawn as profiles. From six to thirteen, full-faces decreased and profiles increased, and at thirteen, there were twice as many profiles as full-faces. The number drawn of each was equal at a point between nine and ten years old. This may mean simply that in the early diagrammatic period of drawing, full-faces are easier to draw, while after nine, the child tries to really represent the face, and then profiles are easier. If this is true, it helps us to locate the point in a child's development where he begins to represent things as they really are, instead of diagrammatically, and nine years would seem to be the age at which the grammar of drawing might be introduced. It may also be that before nine, the children have difficulty in recognizing and appreciating the third dimension, and tend to draw everything reduced to a plane surface, but this point is certainly not well settled.

There can be no question that the face is the important part of the figure for young children. Of one hundred and thirty-six children who were asked to draw dogs alone, eighty-seven drew them facing to the child's left. They always began with the head and then drew to the right, so that the hand and pencil would not cover the lines they were drawing.

A general study of the pictures brings out some points which can not be easily expressed in a table or chart.

The one fact that is most strongly emphasized is that pictures are for a young child simply a language. He makes pictures not to exactly imitate something, nor to produce an æsthetic feeling, but to convey an idea. Picture making is picture writing,—and the examination of pictures is for the young child the reading of stories. Many things in these pictures lead to this conclusion. In the first place, not more than ten or twelve papers out of the 8,393 studied are decorated in any way with borders or ornamental lines or fancy flourishes. The houses are simply diagrammatic, the boys are diagrammatic, not one per cent. being clothed. The child goes straight to the point of telling the story. Even when children were asked in another study to draw something pretty, they generally drew stories about some object. In their desire to tell the Johnny story, the children often drew lines to represent the invisible, the air even being represented by scratches. One boy has a line running from Johnny's eye to the clouds; he said he could not make Johnny look up, and the line was to show that he was looking at the clouds. Johnny is often drawn large, as being the important figure in the story. In the rescue scene, two diminutive little men are often hoisting out a perfect giant from the water. But perhaps the most conclusive proof that young children use drawing primarily as a language, is to be found in the fact that they so easily adopt some conventional form and afterward use it quite as a hieroglyphic. Thus in some primary grades, where drawing is used in making number stories, the children repeated the figure in skirts that they had used in number work for Johnny, and also for the two men who rescue him. One child could draw a boy, but not a dog, so he promptly put the boy down on all fours, and with some hair on his back, he became a good dog; others use their kindergarten chickens for dogs. In one of the kindergartens, the children were given some cherry blossoms. Each child drew some symbol looking something like a cherry blossom, and then went on repeating it until the sheet was full. The effort was clearly not primarily to imitate the blossom, but to make something that would stand for the blossom.

This desire to tell the story leads repeatedly to sacrificing the time limitation that so restricts the narrative power of pictorial art. The children will draw Johnny standing on the river bank, falling over the same bank, floating under the same bank, and being pulled back up the same bank by his two rescuers, all in the same picture and presumably at the same time. Limitations that prevent telling the story must give way before the child's desire to get on with the narrative.

In all of these pictures one constantly feels how disintegrated and fragmentary the subjective world of the child is. This leads to many combinations which one might be tempted to explain as lack of reason, or as imperfect seeing; but a careful study will, I believe, convince any one that the fault is due to the fact that the child sees a fragment, a detail, and executes it, then sees another fragment and executes that, and so on, never seizing the whole as a whole. Thus the perspectives show the front of a house and both ends;

often the house seems to be transparent and you see its whole internal anatomy as well. This again brings us back to the fact that with young children drawing is a language. The child wants to tell what he knows about the thing. This same disintegrated thinking is shown in many ways. Heads are drawn in profile and in full-face at the same time. The two men who rescue Johnny stand on opposite sides of the river, each with a hook in Johnny's clothes, pulling him up out of the water. In this case you have simply incomplete thinking; the river is drawn and Johnny floating, a man is put on one side with a pole, and, having been drawn, he fades into the background of consciousness, and another man is drawn at some convenient place, which happens to be the other side of the river. An extreme form of this fragmentary thinking occurs when the child draws some one figure that pleases him and then goes on repeating it over and over again, sometimes making twenty-six Johnnies in a row.

This fragmentary thinking gives a great opportunity for the play of association of ideas. One child drew a sun, which Johnny was looking at; the circle suggested eyes, nose, a mouth and hair, sometimes arms and legs; this completed sun-man suggested a moon and the stars, until the paper was filled with the heavenly bodies. Another child selected the rescue scene to draw; she made Johnny and the two men beside the river; so many men by the river suggested fishing; the rescue faded into the background of consciousness, and she drew first poles in the men's hands, then lines, then fish on the lines. Here she remembered that she could draw a fish, and the rest of the page was filled with an elegant fish.

Very young children when told the story and asked to make some pictures produced mere scratches and scrawls, which they declare to be Johnny, the fishes, the water, etc. Before the child imitates at all, he uses written symbols. Drawing is for the young child a language.

The following conclusions would seem to be borne out by the study on these pictures:

1. Drawing is for the young child a language, a means of expressing ideas.
2. Children naturally adopt symbols and conventional forms to express what they want to say.
3. The courage to express ideas through drawing increases in California children until they are thirteen or fourteen years old and then steadily decreases.
4. The child thinks in small units; his intellectual processes are fragmentary and broken.
5. Children like to draw large distinct figures, expressed with few lines.
6. Children draw full-faces until they are nine years old, and after that, profiles.
7. In drawing figures children are most interested in the head, hence they draw single figures facing their left.
8. A child uses color naturally for decorative effect; for the drawings, he prefers strong black or white.
9. Children select the dramatic points in a story well, and their pictures are naturally full of movement.
10. In a story a child is most attracted by the scene just preceding the catastrophe.
11. The humane instinct in children is far stronger than the destructive instinct.
12. There is very little difference between the drawings made by the boys and those made by the girls. 3,043 boys drew 7,596 pictures

to illustrate the story, while 3,350 girls drew 7,622 pictures, showing that the boys were a little more expressive than the girls. The girls reach their most expressive point at thirteen, while the boys reach that point a year later. The boys emphasized the rescue scene more than the girls did, drawing 1,414 scenes, while the girls drew but 1,193; in the treatment of the other scenes, they were about alike. One could not say that the boys were more daring in their conceptions than the girls were, nor that the girls dwelt more upon details than the boys did.

In the application of such studies as this to education, there are wide differences of opinion. We may say that the natural tendencies in a child's development are right and to be encouraged; or we may hold that the natural promptings of human nature are wrong, and that the aim of education is to divert the human soul from its natural course along some line determined by philosophy or theology. In either case, to act intelligently, we must know what the natural line of development is.

If we believe that this is a sane and well-ordered universe, tending ever toward higher forms, and that consequently all tendencies common to large bodies of children are to be encouraged, holding ever before the child the next step towards which he naturally tends, then in dealing with drawing in our schools, we should follow the child's lead. With young children, then, we should use drawing freely as a means of expression. We should give them a large free surface, and something to mark with that would leave a strong distinct line, and then we should encourage them to work out their picture stories. We should also use drawing freely in all the work of the school, in reading and geography, in elementary science and in history.

The first objection to such work is that the children will make caricatures and burlesques of things, and that these bad forms will destroy their artistic sensibility. In reply, it may be said that in all forms of expression the child must go through the period of the grotesque; we cannot jump him over it, nor carry him around it. In language, spoken or written, it is the same. We do not ask that the child keep silence until he can speak correctly, but he begins with crude mishapen sounds and forms and gradually corrects them. Is not the reason why so few adults ever master any new art the fact that they are afraid and unwilling to pass through the period of the grotesque? Is not the reason why so many American boys and girls give up drawing and singing at twelve or thirteen due to the fact that we hold the ideal so far above realization that they are afraid of the necessarily crude steps that have to be taken? Do we learn except through honest mistakes?

Besides this danger of corrupting the taste, it is held that the child should from the first be mastering the fundamental conceptions of position, direction and distance which underlie all excellence in drawing, and that for this the child needs drill in point and line work. But this, one may reply, is the grammar of drawing. Like the grammar of language, it is useful, but it does not belong to the early period of drawing. For years we have tried to teach children to speak and read by giving them formal grammar. We have failed, but to-day we are reaching wonderful results by leading young children to talk and write, correcting here a sound and there a word, fostering most carefully all the spontaneous effort that we can find in the child. Is it not time to put drawing on the same basis, setting aside its grammar until the child becomes old enough to use it intelligently as a final corrective? This is not saying that a child should not be trained in making exact horizontal

and vertical lines; on the contrary, such exercises have undoubtedly great value in giving the child control over his nervous system, the same value as exercises in sewing and woodworking; but they are manual training, not drawing; and drawing ought not to bear the burden of disagreeable associations which do not belong to it.

When the child has reached a stage of development where he naturally tends to discard merely diagrammatical forms for exact representations, then the grammar of drawing may profitably be begun; and our study would seem to indicate that this is at about ten years of age. Even then, however, the instruction concerning the art should not so far precede the child's accomplishment as to discourage effort. We can so exalt rhetoric as to frighten a boy or girl away from writing; and we can so exalt the rhetoric of drawing as to frighten the child away from drawing.

But even if we accept the natural tendencies of the mind as right and to be encouraged, this study still fails to do more than cast some faint side lights on the many vexed questions which it touches. A score of careful specialized studies must be made before we can speak with the certainty of knowledge¹.

EARL BARNES,

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Leland Stanford, Jr., University.

ART IN EARLY EDUCATION.²

By MRS. MARY DANA HICKS.

I believe that there is no word that has more phases of meaning than this word art,—that is, to play so large a part in the discussion of this morning.

To one, it means a bunch of paper flowers; to another, a decorated shovel; to another, wax lilies under a glass cover; to another, one of John's or Mary's wonderful crude works in charcoal (the child knowing nothing of modes of expression, but inspiring the rapt admiration of his parents); to another, a photograph or a colored print; to another, a study of the antique; to another, a transparent water color; to another, a fine engraving; to another, an oil painting, frequently most commonplace; to another, a John Rogers group; to another, a graceful ornament; to another, a beautiful vase; to another, a Corot, a Millet, a Raphael, a Fra Angelico, or a Venus of Melos, a Gothic cathedral or a Greek Parthenon. The objects that are portrayed are different, the appreciation is different, but the impulse is the same in all: a desire to satisfy the æsthetic sense, a desire to satisfy that longing for refinement and beauty which every living soul possesses, and the germs of which remain in every human being, however degraded. It is an unconscious reaching out for something higher, of which dim forecasts are felt within—a striving for the possibilities of enjoyment and creation of the beautiful, which is part of the inheritance of every one. The realization of this desire and feeling for the beautiful in any degree is art, and the expression of this feeling is a work of art.

The art impulse may not always be strong; it will need nurture and care; it will for a long time need direction, but it always exists; it is a reality, from the beginning of the life of the human soul. It

¹ Much of the work for this study was done by Miss Anna Köhler.

² This paper is supplemented by extracts from one given before the kindergarten department, in which the children's drawings presented by Professor Barnes are considered as showing the art impulses of children.