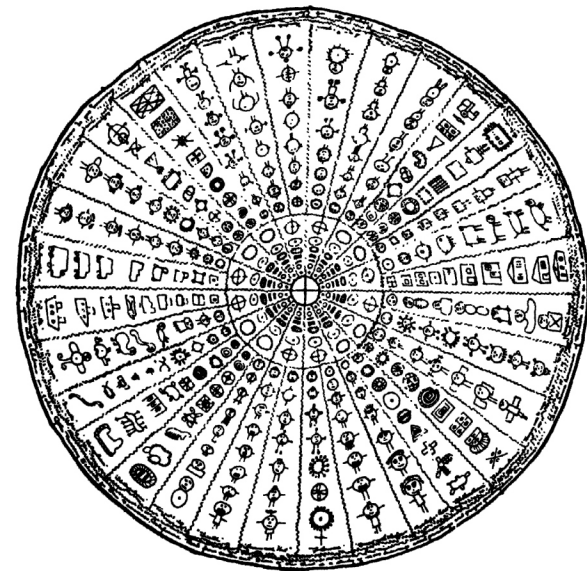


Rhoda Kellogg

Child Art Collection



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This is a handbook for use with the *Rhoda Kellogg Child Art Collection*, a collection of 8000 drawings reproduced on microfiche and arranged in 24 major groups and 206 sub-groups.

Microfiche are 3" x 5" sheets of film upon which materials are reproduced at 1/18 their original size so that each fiche contains as many as 35 drawings.

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Chart on cover was drawn by Rhoda Kellogg as a design showing the evolution of child art from scribbles to pictures. Read from center to circumference.

NUMERICAL LISTING OF PART TITLES

<i>Part Numbers and Titles</i>	<i>Card Numbers</i>
1. Basic Scribbles	1- 2
2. Placement Patterns	3- 29
3. Emergent Structures	30- 53
4. Diagrams	54- 63
5. Combines	64- 76
6. Aggregates	77-105
7. Mandala Aggregates	106-121
8. Suns	122-136
9. Radials	137-143
10. Humans	144-175
11. Kingdoms of Animals	176-183
12. Buildings	184-190
13. Vegetation	191-194
14. Transportation	195-201
15. Joined Pictorials	202-209
16. Learned from Others	210-226
17. Queer Mixtures	227-228
18. Formal Designs	229-231
19. Works of Advanced Scribbling	232-236
20. Individual's Works	237-238
21. Good and Poor Work	239-241
22. Understanding Child Art	242-246
23. Not Otherwise Classified	247-251
24. Other Data	252-255

ALPHABETICAL LISTING OF PART TITLES

	<i>Card Numbers</i>	<i>Part Number</i>
A. Aggregates	77-105	6
B. Buildings	184-190	12
C. Combines	64- 76	5
D. Diagrams	54- 63	4
E. Emergent Structures	30- 53	3
F. Formal Designs	229-231	18
G. Good and Poor Work	239-241	21
H. Humans	144-175	10
I. Individual's Work	237-238	20
J. Joined Pictorials	202-209	15
K. Kingdom of Animals	176-183	11
L. Learned from Others	210-226	16
M. Mandala Aggregates	106-121	7
N. Not Otherwise Classified	247-251	23
O. Other Data	252-255	24
P. Placement Patterns	3- 29	2
Q. Queer Mixtures	227-228	17
R. Radials	137-143	9
S. Suns	122-136	8
T. Transportation	195-201	14
U. Understanding Child Art	242-246	22
V. Vegetation	191-194	13
W. Works of Advanced Scribbling	232-236	19
X. Basic Scribbles	1- 2	1

KEY TO IDENTIFICATION MARKS ON MICROFICHE

Serial number of each Microfiche card precedes the Card title. *Card Title* words refer to classified content of the drawings on each card. Title number and letters refer to Part subdivisions. *Lettering and Numbering* in lower left corner gives sex and age of child making the drawing. B means boy, G means girl. Age is shown in years plus months when known. Thus 4 means that the four year old age in months is not known; $4 + 0$ means 48 months of age; $4 + 1$ means 49 months, and so on up to $4 + 11$. Absence of letter or number means lack of information. U means sex and age unknown. The letter R in the lower right hand corner means that one or more lines of the drawing were reinforced for reproduction purposes. The letter P followed by a number, refers to the Placement Pattern of the drawing. The letter D followed by a number means that the drawing has an overall Diagram shape. The letter M means that the drawing is a Mandala.

INTRODUCTORY STATEMENT BY RHODA KELLOGG

Discussions about child art cannot be very satisfying unless the art works themselves can be seen. Even small reproductions are not the same as seeing the original size, which these microfiche enable the viewer to see, but not in color. The black and white version is an advantage for this presentation, dealing only with the gestalts which young children draw as line formations and combinations. Use of color gives line emphasis in some drawings, but does not alter line placements. The full beauty of drawing is missed in black and white reproduction, but this study is concerned only with the structural aspects of child art.

This material is arranged to show the developmental stages through which normal children proceed when they scribble and teach themselves to draw from age two up to age six. This presentation is based on a twenty year study of more than half a million drawings made by young children living in the Bay Area of California, plus about 5000 works collected from thirty foreign lands. The majority of the drawings were made in two nursery schools operated by the Golden Gate Kindergarten Association. My first report on this subject in "What Children Scribble and Why" (1955) covered work done by children aged 30 to 54 months. Since then study of the scribbles of two-year-olds reveals that one cannot fully understand the scribbles and drawings of children over age three without realizing that their earliest scribbles have effect on subsequent work. The enlarged 1967 edition of the book contains the full account of my findings to date.*

As we all know, it is the brain which organizes visual data into meaningful gestalts. That the child's brain is stimulated by the visual impact of his own scribbling is here documented. Though each child has an individual "style," the scribbles of all children evolve so similarly that one may entertain the hypothesis that the brain is predisposed to comprehend and to retain certain spontaneously scribbled gestalts and to fail to do so with others. In any case, this material shows that scribbling is not merely motor pleasure for children; it is much more. For the adult to try to see what the child may see in scribbling is difficult, for adult mind and child mind are not identical. Today there is great interest in how the child mind organizes visual stimulus into meaningful gestalts. Verbalizings of children

* National Press, Palo Alto, California

about what their scribbles mean are not reliable information about the way the child brain organizes line gestalts. An objective analysis by the adult brain of the gestalts children draw can be reliable information.

My approach has been that of grouping drawings having similar gestalt characteristics, then noting the age level for their first appearance in child work. By this sorting process agreement has been reached with a few other persons that they see what I see in them. These microfiche provide the first opportunity for many persons to see 8000 drawings as organized by me into meaningful categories for study.

I had no pre-conceived ideas of a classification system into which drawings should or could be fitted. The one given here developed out of the impact which repeated study of the drawings made upon my mind. In 1955 I had concluded that most work of two-year-olds was undecipherable, or meaningless to my eye and brain. By 1965 I had learned that two-year-old work does lend itself to meaningful organization by the adult mind. It is not possible to describe these meanings only with words; the drawings themselves do reveal that organizations of scribbled lines into typical gestalts are made by very young children.

To show these drawings in gestalt categories which are meaningful to the adult, these reproductions have been organized into twenty-four parts. To help the viewer remember the content and sequence of the Parts, a descriptive title has been given to each Part and each subdivision. A first viewing of this collection in the order of the Parts is essential to understanding its message. Sufficient leisure for looking should be allowed so that the gestalts sink into the viewer's mind as new visual experiences, not because the scribbles are unfamiliar to adults but because they are being seen in light of a new mental approach.

The drawings must first be viewed in the context of this study, which does not deal with any subjective meanings or emotional content which they may produce in any viewer. The drawings are shown purely as line gestalts, made under eye control, and gradually "learned" by the child's mind as gestalt formations which can be drawn again from "memory." Whatever other meanings may be in them is another matter, omitted here in order to simplify this presentation. Intensive study of line gestalts does not negate other ways of viewing child work. Instead, it establishes an objective basis for viewing children's drawings and discussing possible meanings. One value of this approach is that it makes possible an objective agreement among adults as to what is seen in a given work, because their minds are alerted in advance to look only for specific line gestalts. Scribbles, when so viewed, will then be neither meaningless, nor valued only as expressions of child motions or emotions. Child work will be seen to reflect mental ability to compose line gestalts and to store them in memory. The value of such insight into child mind is self-evident.

I have concluded that the act of scribbling, whether on paper, or any surface where the resulting marking stimulates the child's eye and brain, is a valuable experience which develops cognitive capacity. A million words will not convince another of this statement, but study of a million drawings probably would, as it has convinced me. In addition to the half-million drawings of preschool children I have also looked at another half-million made by older children in public schools. The ordered whole which my mind has made of this material is summarized in the few thousand drawings here shown. Though my mind created this presentation, it had no effect on the drawings. If others see what I see, a valuable meeting of adult minds has taken place.

Evidence that the human mind is "imprinted" with basic imagery common to the species is suggested by this material. That the human capacity for comprehending formally organized visual data is both innate and learned is documented by the data of child art. D. O. Hebb says that the Gestaltists do not emphasize adequately the role which learning plays in human cognition, and that proof of the role of early learning is hard to come by. These microfiche give evidence that children teach themselves to draw before adults can attempt to coach or teach them. Viewers must look at these drawings with an open mind, realizing that similar drawings were of great interest to all of us in childhood, and that today they can have even greater interest because of the insights they can bring to the adult mind seeking to understand the child mind. As said before, words cannot describe art. The words which follow are a minimum needed to alert the viewer's observing eye.

The viewer should concentrate on looking only for that aspect of the drawing which is indicated by each card's title, disregarding other aspects in so far as is possible. Other aspects are further described below, and a glossary is given to help the reader. The many ways of looking at scribbles are too complex to be considered at one time. The classifications are not mutually exclusive for one drawing may qualify for illustrating several aspects. This material should convince viewers that normal children teach themselves to draw in orderly, sequential stages which are common to all children the world over.

EXPLANATIONS OF TITLES ON CARDS

THE TWENTY-FOUR PARTS

The twenty-four Parts show the evolution of child art from scribbles to pictures. They show four main stages of development, and also the evolution of the dominant gestalts commonly made by all normal children. The four stages are: the Pattern Stage, the Shape Stage, the Design Stage, the Pictorial Stage. Children go through all four stages on differing time scales, but no stage is skipped. Patterns predominate at age two, Patterns, Shapes and Designs at age three, and Patterns, Shapes, Designs and Pictorials at age four and thereafter. When a new stage is reached learnings of the former ones are incorporated, not abandoned, unless adults discourage mere scribbling and encourage only pictorial work.

Part 1. The 20 Basic Scribbles

All drawings consist of one or more Basic Scribbles used in various combinations. There are about 18-20 different kinds of basic markings, which I have called The Basic Scribbles. All scribbles, drawings, patterns, shapes, designs, pictorials, and even language consist of markings which can be broken down into their Scribble components. The Scribbles can be called biologic happenings, as they appear when a human hand holds a marking instrument and moves with variations of muscular control of the hand. Two-year-olds can make all the Scribbles without eye control. Babies waving their arms would make Scribbles if an instrument could record where and how their finger tips move through the air. How the Scribbles are made in combinations affects our comprehension of them as "scribbling," "drawing," "art," "caligraphy." Single examples of a Scribble, as shown on Card 1, are rarely drawn by young children because they usually make

more than one Scribble on one piece of paper. They usually do work with the eye focused on hand and paper.

Scribbles merge from one kind into another, as muscles shift. Identifying Scribbles as such in child work is not significant. It is the combinations of them and the placement of them within areas that tells an important story. Since all normal children can make Scribbles, all have the potential for learning to use them with increasing control of the brain's motor and visual centers. Thus basic capacity for the art of scribbling is an inborn one, subject to developmental influences.

Part 2. Placement Patterns

Placement Patterns have to do with the location of the Scribbles on the paper's area. Patterns indicate that the child's eye is able to view the paper as the "ground" for marking, and that the eye is aware of the paper's perimeters, corners and center. The eye is also able to use part of the paper as a ground: the vertical half, the horizontal half, or the diagonal half. The eye is even able to divide the paper's area into thirds. Placement Patterns are of basic significance because they persist throughout all the stages of child art and on into adult life. The Patterns are the most important discovery I have made about child art, so I urge the viewer not to pass over them lightly. If, like the Scribbles, they are biological happenings, they are an important key not only to child art but to all art, for adult artists use these Patterns, only with greater skill and complexity. The Patterns can be called archetypal, and probably have great bearing on theories of esthetics.

There are no statistics on how many works of two-year-olds are patterned or unpatterned, as this is a job for a computer machine yet to be designed. Since no funds have ever been granted the Association for this research, and my study is a labor of love, I work for new insights, leaving the statistics to follow at some later date. My mind is persuaded that the bulk of child work is patterned, but this conclusion needs to be verified by count.

Adults are usually insulted when child art and adult art are compared. We are conditioned to believe that capacity for art is a special talent given to a few, and that child work is not to be taken seriously as art, but only as interesting behaviorism in the young. The material on these cards shows that children scribble and draw under guidance of a built-in visual-mental system, which often results in compositions which are regarded as esthetic by adult artists. Artists were once children who scribbled and drew according to the basic elements of esthetic composition naturally known in childhood. Unlike adults who are insensitive to esthetic composition, artists are persons able to build on this natural esthetic capacity.

The titles on the microfiche are descriptive of their content, and are given so that viewers can discuss them by labels rather than by numbers, which are more difficult to remember and have no special significance. Most of the early scribbles seem to fall into Placement Patterns, so I make a guess that those which do are the ones which the brain can organize and "learn," and those scribbles which do not follow Patterns are "lost" to the mind. Some Patterns may not be clear to the viewer without a few words of explanation. Patterns are valid no matter how one holds the drawing. There is no top, bottom, right or left aspect to Patterns. P9 means that the scribbles are evenly balanced on one diagonal axis; P10 means that 2/3 of the paper only is covered, or that 1/3 is scribbled differently from the 2/3 portion. P12 means that one corner is filled, three corners are empty, and the central area of the paper is filled, but the material is not evenly balanced on a diagonal axis as in P9. P13 means that two corners are empty and

that two corners are filled, and the resulting gestalt is that of an arch, or 1/2 circle. P14 has three corners filled and one corner empty resulting in a gestalt of 1/4 section or arc of a circle. P15 has two corners empty and two corners filled, with the resulting gestalt being a pyramidal or triangular shaped area. In P17 the lines go from one perimeter to the opposite perimeter, and seem to avoid the other two perimeters. There may be other Patterns which I have not yet seen.

The viewer should loiter over the drawings in Part 2 until the Pattern idea and the Patterns are clear and fixed in mind. Thereafter they will more readily be seen in subsequent work, for they never disappear. Some of the drawings shown in other Parts are marked for Pattern in the lower right-hand corner. The Patterns of great significance are those which produce the images of four of the shapes called Diagrams: Rectangle or Square, Circle or Oval, Odd Shape, Triangle. No child, to my knowledge, has ever made a Diagram without having previously done much scribbling. The Patterns therefore seem to account for the emergence of the Diagrams about age three. Patterns reveal that the child's eye reacts to his first markings on the paper, and then he proceeds on until he is satisfied by the completion of certain gestalts. Repeated scribbling fixes the various gestalts in mind, as "brain patterns," and eventually their outlines can be drawn. The visual sources of the Diagrams to be found in the Patterns are listed under Part 4.

Part 3. Emergent Structures

Part 3 contains drawings which indicate developing cognition in two- and three-year-olds, and give sources other than Patterns for the Diagram images. Cards E1 and E2 reveal similar images with significant differences. Card E1 contains Multiple Line Crossings in one color which possibly could be done without the eye looking, and could be merely the result of shifting movement caused by muscle fatigue. They probably are more often done with eye control, as are those seen on Card E2, where the marks in several colors indicate that the hand has been lifted and the scribbling continued in the same area. Cards E3-E12 clearly show that the eye is on the job. Emergent Structures drawn by older children are not shown here, because the concern at this point is to indicate that these gestalts are made at an early age.

There are other interesting and significant gestalts made at ages two and three which have bearing on later work. Instead of showing them in Part 3, they are shown in other Parts as they relate to the evolution of the Mandala, Sun, Radial, and Human.

Cards E13, E15, and E16 are significant for indicating whether or not the child's eye sees the whole before seeing the parts. These drawings show that the markings are contained within an implied shaped area. Some of the markings are continuously made lines, others consist of separated units combined to be contained in an implied shaped area. Later on shaped areas are outlined and as such constitute the Diagrams.

D. O. Hebb says that the capacity to see the whole is innate, that seeing the parts is the result of "learning" through much eye and brain activity which is difficult to observe and measure. When a child makes one scribble and then goes on to round it out to a shape, or where he combines scribbles to make the whole into an implied total shape, his eye and brain must be working. He does this long before he can outline a shape as such. Implied shapes may therefore be biologic happenings. The big question is: do shapes come from Patterns or are Patterns made for shapes?

Card E11 shows implied rectangles resulting from utilizing the shape of the paper's area. Card E17 shows a special kind of scribbling, wherein large open areas appear, which also suggest the Diagram shapes. These drawings may seem to indicate visual hesitancy or uncertainty but they are more mature scribbles than the bulk of two-year-old work.

Part 4. The Diagrams

The images of the Diagram shapes are definitely suggested by some of the Scribbles, by the Patterns, and by the Emergent Structures. They are listed here, but the viewer need not go back to check on this listing until all the Parts have been seen. Then these sources for the image of the Diagrams will take on more significance and the effort of checking them will seem more worthwhile.

For Rectangle or Square: P1, P3, P10, E8, E9, E10, E11

For Oval or Circle: Scribbles 16, 17, 18, 20, P2, P3, P13 (half circle), P14 (quarter circle), E12, E13, E14

For Triangle: P7, P8, P15, E16

For Greek Cross: E1, E2, E3, E4, E6, when made in upright balance.

For Diagonal Cross: E1, E2, E3, E4, E5, E6, E7, E8, when made in diagonal balance.

For Odd Shape: P9, P12, E15

Children do not often draw a single Diagram on one piece of paper because Diagrams, when learned, are quickly combined into Combines and Aggregates. A Combine is two Diagrams and an Aggregate is three or more Diagrams. Making these three categories of shaped drawings is useful for discussion purposes. Aggregates and scribbled Patterns constitute most of the child's work before the pictorial stage begins. One can see that Diagrams are often placed in the familiar Patterns on the paper, as seen on Card D7. Scribbles are usually added to Diagrams, Combines and Aggregates, especially by three-year-olds. Fewer examples of their work are given for this reason.

Part 5. The Combines

The Combines (any two Diagrams) which are most prevalent in children's work are here shown. Theoretically, at least thirty-six Combines are possible, but eye and brain seem to prefer the ones shown in this Part. Among them is the one based on a Cross in a Circle or Square, a gestalt of central significance in the study of child art, and described further in Part 7. Children do not frequently make one classic Combine on one paper, for the same reason that they do not make a single Scribble or Diagram. They also draw other gestalts. Combines are made in Placement Patterns, as seen on Card C11, and also made to imply the shape of a Diagram, as seen on Card C10.

Part 6. The Aggregates

Aggregates show that hand, eye and mind are working in high gear. One might expect Aggregates to be endless in variety and complexity, and they are. However, visual memory is apparently limited, so that Patterned Aggregates are the ones remembered and repeated. Aggregates which predominate are of the kind which Gestaltists tell us the brain can most easily organize. These are called Mandala Aggregates, seen in Part 7.

The viewer will see that Aggregates are often made to fit into the implied

shape of a Diagram, and also to fall into the Placement Patterns. In other words, the whole and the parts of Aggregates are structured to fit into well-worn neural pathways developed through previous scribbling. One thing leads to another and practice makes perfect.

One reason why adults who can see at a glance what is here presented, but find difficulty with concentrating on its meaning, is that adults have been conditioned in their later childhood days to repress and to denigrate the natural pleasures of free child art activity. Also they were forced to learn gestalts devised and drawn by the adult mind for children to learn by copying. Educators have never been respectful of the highly developed, natural esthetic vision of young children, because they have not known that it exists. To retrieve this vision is mental effort for the adult and involves emotional conflict and pain. Few adults can distinguish between child-like and childish behavior. When educators get new insights into how scribbling develops the child's mind, there will be less effort to stuff it prematurely with adult "art" and calligraphy. By letting children scribble their way into easy retention of complex art gestalts, they would become more willing and able readers after age six. Follow-up of 200 children who did much scribbling in nursery schools operated by the Golden Gate Kindergarten Association revealed that all but three of them were good readers in school.

Part 7. Mandala Aggregates

Mandala is a Sanskrit word meaning "magic circle." Carl Jung called it an archetype of the unconscious mind—"psychic expression of identity of brain structure irrespective of all racial differences." Rudolph Arnheim's "structural map" of the location of marks on a paper which have "stability," is itself a mandala. The word is used in my study of child art as a descriptive term to indicate compositions of children's scribbles and drawings which produce the image of an evenly crossed, or divided circle or square, or concentric circles or squares. Since all two-year-olds scribble mandalas, Jung seems to have intuited two-year-old vision, and Arnheim's map can be applied to the work of young children, because the child mind works much as the Gestaltists say the adult mind works in art. To my mind, there is no conflict in the approaches of these two authorities in psychology, only a difference in the meanings which each attributes to the fact that human beings are mandala-makers.

In child art it is evident that the mandala proportions are dominant in early childhood. Part 7 shows the evolution of mandala out of earlier work. Given the predisposition to draw in balance, and given the opportunity to do much scribbling, mandala-making seems to be inevitable. The Placement Patterns and the Emergent Structures all reflect how the child uses the corners, sides and partial areas of the paper as guide-lines for compositions. The material as here organized is documentary evidence, available in large volume, of what the child sees as wholes and as parts in his own scribbles.

The sequential development from first Scribbles to first pictures is similar for all children, some being slower than others on the time schedule. Why is the two-year-old unable to draw a single diagonal line from corner to corner when he can easily make multiple lines in balanced placement on either side of this implied line? (P9) Why does he not make a single line circle when he is able to make a circular scribbling with a clearly implied circumference before he can make a Diagram? Why does a child seldom make a Sun gestalt until after he has made his Mandalas? These are difficult questions to answer. My thought that one

gestalt leads to another is the best one I know from studying child art, not as a psychologist, but as an observant teacher of young children and their art work. Simply stated, the doubly-crossed Circle Mandala is a design which combines images of 5 Diagrams and suggests a totally new image—the Sun, which in turn leads to the Human and to other formulas or "symbols" which are commonly given pictorial labels. A forerunner of the mandala image is to be seen more often in spontaneous early work than many other gestalts. The Inherent One Line Center Crossed Circle seen on Card M1 and the Inherent Multi-line Crossed Circle seen on Card M3 are abundant.

Concentric Mandalas stem from E12 and E13. Concentric squares, circles and odd shapes are more frequently made than concentric triangles. We may presume that Combines and Aggregates which do not have good balance will be harder to see, to remember, and to use in further composition; so the Mandala image wins out because it is easiest to see and learn. Adults can not understand the early pictorial work of children without awareness of the role which their Mandalas play in their art, especially in the drawing of Humans.

One thing is certain. The child enjoys drawing "mechanical" Mandalas, by filling in the four or eight areas which result when two lines divide the paper into even sections. These drawings are not often admired by adults. They have no "what is it?" to talk about and thus "communicate through art," meaning to verbalize about it—not the communication of a shared non-verbal esthetic experience. In this study of child art the mandala has no more mystical significance than any other gestalt, however powerful it is in Oriental religion. The meaning of all graphic symbols is both mystical and mysterious, for that matter. Child art Mandalas should be understood in terms of the role they play in the child's mental comprehension of lined abstract gestalts, a comprehension needed for learning the gestalts of his language. If language can be learned without having to sacrifice mental freedom and integrity in art, early childhood education can be more successful and agreeable. Since creative mathematicians say that new mathematical ideas come to them in esthetic patterns, perhaps we should not think of art as an educational frill.

Cards M1, M2 and M3 show the Mandala gestalts which are to be found in certain Scribbles 16 and 17, made long before Diagrams are made. This means that the Mandala image can naturally be made by spontaneous movement at age two, but it cannot be made in outlined form until a later age. Scribbled Mandalas can be the result of muscular fatigue causing a shifting of the directional flow of movement; but outlined Mandalas are made under more developed control of eye and brain. Cards M4 and M5 show mandaloid structures of scribbles, Cards M6-M12 show structured Mandalas.

Part 8. The Suns

The Sun is a Diagram with radiating lines crossing the circumference. The sun-burst image is to be seen in scribbles previously made, as shown on Card S1. Card S2 shows that multi-lined Diagrams suggest images of a Sun. When Suns are first made they have center markings, which are subsequently omitted. Then follows a Sun with markings in the center which can be called a "face." By elongating certain rays of the Sun a Sun Human results. On Card S7, one sees Suns incorporated in non-pictorial Aggregates, followed by Cards showing various studies in Sun designs. When Sun's rays are looped back to the circumference, a "flower" is made. An Enclosed Sun is one which has a line drawn around the outer ends of the rays.

Part 9. The Radials

Radials are concentric lines converging at a point or a tiny circle center. Radials differ from the Sun, with its larger area and lines which do not go to the center. Here again, we must look back to early scribbles as possible sources of this image. The Sun does not come from the Radials. Card R1 shows Scribbles 16 and 17 in which several of the circular lines converge at a point, giving a spherical or radial quality to the gestalt. Card R2 shows criss-crossing lines which likewise converge, and produce a kind of radiating effect. On Card R3 we see what could be an attempt to produce R1 images deliberately, rather than as the natural happenings of R1. In any case, the special markings on the circumference of a circular scribbling, as seen in R3, destroy circularity balance and add a kind of focal point from which the circular part "radiates." Card R4 shows lines deliberately made to radiate from a point. Card R5 has the completely clarified Radial gestalt.

The difference between Radials, Suns and Mandalas must be kept clearly in mind in terms of their origin, even though all three have similar balance. A Mandala is based on the evenly segmented area, usually into 4, 8, or 16 sections, occasionally into 6 sections. Crosses are involved in Mandalas other than concentric ones, but are not involved in Radials or Suns.

This concludes the pre-pictorial stage of development in child art, and one can now realize how rich and complex it is, and how much the child's visual and mental activity have developed for comprehending abstract gestalts and the esthetic arrangements which can be made out of the 20 Basic Scribbles. Long before any pictorializing is attempted, the child is an experienced abstract artist.

Part 10. The Humans

We cannot call the first Human "a man" because it has neither age nor sex characteristics. This label is a reflection of the fact that the word *man* is often used generically to refer to both sexes and all ages. When the child makes an Aggregate which has something similar to the "man-in-the-moon" effect, we see the beginnings of a drawing of a Human. When the area which makes the Head is also a Sun, gestalts seen on Cards S5 or S6 are produced. The Humans of Part 10 are different. Humans are made by modifying the Mandala and combining it with a "face-like" Aggregate seen on Card H1. Sun Faces may precede the mandaloid Human, H3, but they are abandoned for further development of better Humans. (The Sun Human does not have "hair" or "whiskers." These labels have origin in the adult mind.)

After the Sun is made, children draw a most significant gestalt involved in the evolution of the Human. It is called Area with Few Sun Rays, H2, and could be thought of as an incomplete Sun, but it is not, because the Sun precedes it. These H2 drawings also look like a Human without a face, or like a Circle and Cross Mandala without the center lines. They are neither, and although they look like "nothing," they are the product of an inventive mind trying not to remain arrested on simple Suns, mechanical Mandalas, and numerous Aggregates that are too complex to retain in memory except as an implied Diagram. H2 gestalts can be called an important invention of the human mind in childhood. When this Area with Few Rays gets center markings, a Human results. That Human will have what I once called a "Hat," not in a pictorial sense, but in the sense that the

top of the Human's head is marked to give Mandala balance to the whole gestalt. The next developmental step ahead comes through omission of the Hat, as seen in H4, and by making other changes. Cards H5 through H19 show varieties of Humans. Making Armless Humans is a big step ahead if the child is trying to elongate the gestalts adults call "a man." H5 is a more mature drawing than H4, but it is not satisfying to adults. Existing "draw-a-man" tests of child mentality rate H5 below H4.

Most Humans have ovular shape, and one needs to see them as shapes, Diagrams, Patterns, Mandalas, Radials to understand and appreciate them. Mandaloid Humans have arms, legs, and head drawn off the torso to give circle and cross balance. The Radial Humans have drooping arms that to me are suggestive of Radials rather than Suns. There are Humans with head, arms and legs drawn to touch an implied circle. These drawings do not have cross and circle balance, but are Sun-like or Radial-like.

We can never know how much adults' reactions to child work influences them, but it must be considerable, once pictorialism begins. However, the child mind goes right on producing the familiar, memorized, esthetic gestalts which he has been making for two years, in effort to sustain the pleasures gained from constructing both familiar and new gestalts. Any serious attempts to understand child art forces us to the conclusion that "realism" in the child's pictorials is the last thing the child cares about. When he is pressed to consider it, the results are verbalizings about his work designed to meet with adult approval; or he may make a few attempts to copy unesthetic, adult-approved formulas. More often the child loses satisfaction from drawing and finally quits at about age 7 or 8.

This presentation ends with age 5, for after that, adult influences are so great as to make the child's work no longer a reliable reflection of natural development. Actually, much of the work done at age 5, as shown here, has been influenced at kindergarten and at home, though the pre-school work from child care centers is much less influenced, if at all. Since Humans are made by three- and four-year-olds, their work is fairly authentic as spontaneous material, as is also much of the work of five-year-olds. That these early Humans reflect great mental capacity or intelligence is not known, because adults think children are beginning in art when they attempt to draw "pictures." They are doing something else. All art works of young children can be called archetypal in the sense that they draw universal, abstract gestalts commonly made by all normal human beings the world over since the beginning of time.

The remaining categories of the Human gestalts here shown are oriented toward the adult mind's need to think in terms of arms, legs, hair, etc, as observed in the human body. One good look should convince the viewer that the child works as an artist, not as an illustrator of anatomy, nor to "communicate" information. As a master of the esthetic shapes and Placement Patterns, the child artist is not able to avoid fitting pictorials into them. The adult artists struggle to do so, for the unconsciously known "right" way to draw is in esthetic patterns. If adults can see these Patterns in the familiar Aggregates, in the drawings filed as Humans, Animals, Buildings, Vegetation, Transportation, we can understand child art, but only if we so see them. On Cards H7 through H18, are to be seen some of the many significant Human gestalts. H17 contains what are called "male" and "female" Humans. The complexities of children's Humans tax the adult mind, with its more mature way of viewing pictorials, but the child has no such problems until adults try to "educate" him in art.

Part 11. Kingdom of Animals

The Animals evolve out of Human gestalts, as seen on Card K1. Then follow Animals with the torso and head vertically arranged, K2. On Card K3 are to be seen Animals with a horizontal torso, and a head which is either vertical or horizontal. The K2 Animals are actually Humans with head markings which are spaced to look like "ears." Animals except those in K1 to K5 are drawings influenced by learning from adults certain formulas which are acceptable as the distinguishing features of different animal species. A few Radial whiskers make "cats," Sun's rays make a mane for "lions," a hump produces a "camel," a trunk an "elephant," a long neck means a "giraffe," a waving back spells "dinosaur," and so on.

Part 12. Buildings

Buildings are made mostly of Squares and Triangle combinations. Three Squares make "a house," if one is "a door," and one is "a window." One Triangle makes a "tent"; and a Triangle on a Square makes a "roofed house." On Card B1 are certain Aggregates which precede true Buildings. The child does not draw houses with characteristics he observes in his local culture; instead, every child sees that any house looks like a familiar Aggregate. Whether adult or child first names pictorial Aggregates, we do not know. The world over, child art reveals such similarity in early pictorialism that the results must be called archetypal human product made with infinite individual variety.

Part 13. Vegetation

Flowers are derived from the following categories of previous work: Diagrams, Combines, Aggregates, Suns, Radials, Mandalas, and E12, E13. They are often arranged in Pattern 5. A first tree is actually an Armless Human with extra markings in the "face," which now become "fruit" or "blossoms." Flowers are easy for children to draw, and they please adults, for like snowflakes, many flowers in nature are mandaloid in character. Flowers are usually quite formally structured in child art and look stiff. Part 24 shows a study of Tree formations. One sees clearly that flowers and trees are not drawn in relative size, as seen in nature's world, but are drawn to fit into paper spaces so that an esthetic whole results.

Part 14. Transportation

In Part 14 are grouped drawings of various vehicles of transportation. Except for a Boat, the items are of vehicles unknown to mankind until recent times, though the wheeled wagon or cart, is of older origin. When a child draws a rectangle and puts four circles in the corners, only a design is made, when he puts only two circles near two corners, a wheeled vehicle results, here called Automobile. A simple Boat is made with a triangle on a rectangle, or on a half-circle, so the drawing of this type of boat is no great cognitive achievement. However, since adults can label an Automobile or a Boat, the child is no doubt influenced to become concerned with pictorialism which interests adults. An Airplane is essentially a Cross Diagram gestalt, a Rocket is usually a Triangle, and a Train is several Automobiles joined in a row, as drawn at ages four and five. Combining Transportation items begins at age 5, the combinations being esthetically, rather than realistically drawn. Logically Part 14 probably should be in Part 16, but is not included there because some of the gestalts are made without the influences of others having stimulated them. They are natural products of the child mind.

Part 15. Joined Pictorials

Once the formulas or symbols for Humans, Animals, Buildings, Vegetation, and Transportation are learned by the child, with or without adult encouragement or coaching, the child can combine these gestalts into "pictures." In Part 15 it is very evident that esthetics wins out over realism with regard to the relative sizes of the objects drawn. Psychologizing to the effect that the Human is drawn as big as the Building because the Human is a self-portrait of the artist, who feels he is as important as a house, is natural for the adult mind which is unconcerned with the basic esthetic compositions of child art. By now the viewer is presumably so concerned, and realizes that further adult psychologizing about the meanings of child art must include adult awareness of the child artist's long history of cognitive development through self-instruction in art.

Part 16. Learned from Others

Part 16 contains drawings of subject matter which home and school encourage children to draw. These drawings were all made in school, under adult influence, as assigned subjects of interest to Americans. It is obvious that there are simple formulas which are acceptable to adults as "correct" for the subject. A Jack-o-lantern is a Face Aggregate (H1) with a top mark for a pumpkin stem, a Snowman is a Human without legs and a hat, Santa Claus is a Human with a stocking cap, Indians are Humans with feather Hats, Thanksgiving is represented by a formula for a turkey, a Valentine is heart-shaped, a Spaceman is a Human with Square Torso, Rain is shown by repeating vertical lines over the drawing, and so on. Indians are a favorite subject for drawing because child art motifs fit in. Easter involves chickens, eggs, rabbits. It is interesting to note that kindergartens stress subject matter which they claim the child seems to enjoy, without knowing that the reason he enjoys drawing holiday subject matter is that he can develop them out of previously made gestalts. The work of children who have previously done much scribbling is "good" in school; that of beginning scribblers is usually "poor." Unless the child has developed his esthetic eye in the preschool years by the practice of scribbling, he will not find much pleasure in copying a few pictorial gestalts made by teachers or other children for him to copy. He will soon give up drawing and thereafter never return to it. He could catch up on his scribbling if teachers encouraged scribbling rather than copy work at this stage, but few teachers enjoy scribbles or know the value of doing it.

Cards L1, L2, L3 deal with letter and number gestalts as made by children and incorporated in their pictorial and non-pictorial work. Letters and numbers are symbols having arbitrary meaning content, as used by adults. As first used by children they are esthetic gestalts stemming from the Scribbles, or identical with them. Therefore they may be used esthetically in inverted or reversed position in art, but not in language. It is my conclusion that letters and numbers should not be learned or taught until the child has reached the stage in art development where the drawings show a high degree of cognitive development. At that point, the child should be made consciously aware of the similarities between his familiar art lines and the lines of language, then clearly told that in art there are no rules of composition, but in language there are. In art he may make L or I, but one is a letter and the other is not. In art, he can wander over the page, in language a horizontal line controls placement. An E cannot be made Ξ or \sqcap , as in art.

Since children have "ceiling vision" for art gestalts, letter gestalts introduced into art are esthetically valid when made upside down or in reverse. No organic

visual or mental defect is evidenced in mirror writing, called dyslexia. A child must learn to write letters either in reverse or properly. He is not born with the capacity to draw letters other than those which are to be seen in the Basic Scribbles. Once a child teaches himself to write letters in reverse, it may not be easy to get him to change these brain patterns for these gestalts, because adults become disturbed over them. Mirror writing then becomes an emotional problem, though most children do outgrow it. In the drawings shown here with letters reversed, there is evidence of good mental capacity of the artists. I conclude that language has been improperly or prematurely introduced into their minds.

Children who are well developed in art usually learn to read easily and well. Lack of experience in scribbling and drawing is one handicap of the so-called "culturally deprived" child; not lack of innate mental capacity. Children who are advanced in mathematical thinking, but not in reading, can be the non-scribblers. When drawings are used to evaluate "brain damage," spontaneous art products are a more valuable aid in diagnosis than are request drawings. Existing drawing tests are based on devised tests, and psychologists have no awareness of the sequential development in art which this material shows.

Part 17. Queer Mixtures

The Q1 drawings reveal freely mixed pictorial and non-pictorial elements. They can be a worry to adults, who do not realize that the child artist uses both kinds of formulas to make an esthetic whole. Thus seen, they give no cause for alarm, and can be enjoyed as esthetic or humorous works.

Q2 drawings show formulas learned mainly from adults, combined with natural child art formulations. They too, are normal drawings.

Part 18. Formal Designs

These drawings need little comment, except to say that they show artistic use of motifs to make the whole.

Part 19. Works of Advanced Scribbling

The drawings in Part 19 are non-pictorial works which show great control over use of line. W1 reveals joy of making scribbles as such in esthetic composition. When shapes are very clear in mind, they can be made by building them up with what is called fill-in lines. With or without a guiding outline, these drawings show appreciation of Scribbles as such. W4 shows love of the scribbling movements. Great skill is needed to produce even, textured effects, a skill not usually achieved until age five. The beauty of the work in Part 19 comes mainly from color, but the black and white version shows their complexities and simplicities. W5 designs were omitted in Part 8, because they do not precede the Human, but are more mature works.

Part 20. Individual's Work

Having learned or taught themselves a new gestalt, some children like to draw it over and over again before moving on to another. Card 237 shows work of children whose repeats on one theme are numerous, and they illustrate that no two drawings are ever exactly alike, yet all are on the same theme. To say that all children draw alike does not negate individuality. Child work is individual expression of archetypal material. Since human bodies are similar, the world over, products made by humans have certain common denominators or archetypal

aspects. It is the individual variations which keep art alive rather than static, but always contained in basic art forms.

Card 238 reveals how similar gestalts have differences which cause one to be called a "face," others not. It is important to let children experiment with making different effects, and not stick to a few formulas. As many pieces of paper as they want to use in drawing should be given. To ask a child to fill up the paper is to interfere with the learning process, because the marks cannot be erased, and new ones added can soon result in chaos which the mind cannot comprehend. Having children draw on newsprint or discarded printed forms is to confuse the cognitive mind and frustrate scribblers' mental growth. The weak lines in some of these drawings represent mental uncertainty and awareness of differences in gestalts. Only when gestalts are clear in mind does the child recognize work as his own. Even then he may not, because others in the class may be making similar ones. Teachers often know who has made an unnamed drawing because they know the child's style and the stage of development he is going through.

Part 21. Good and Poor Work

It is rare for a child to make a complete Human before age three. I have seen such work only once in drawings not in my collection. A whole series of cards could be shown under this heading, but space allows for only two cards in this series. The four drawings made by one girl aged four are very exceptional. She made 1300 over a two year period, all of which are excellent examples of unusual cognitive ability in art. A withdrawn child, she spent most of her time drawing.

For Card 241 it is difficult to select examples, because children like to do what adults often mislabel "regressive" work, discussed under Part 22. Poor work is that done by children who begin their scribbling in school at age four or five and the structures they make give evidence of mental capacity but not of an experienced background which is based on much free scribbling. They should do just this to develop interest and ability in art and thus work as artists, not as copy-cats of formulas on blackboards.

Part 22. Understanding Child Art

All drawings consist of Scribbles and Card 242 shows the many ways that Scribble 12 is used in preschool work, reminding the viewer that Scribbles are basic units and how they are used is what counts. Card 243 shows a study of the way a child naturally places the components of a drawing so that parts fit into the whole. In this drawing any two or more units combine into an implied Diagram area of pleasing outline. The original drawing is shown in reduced size, the tracings of parts show implied Diagrams.

Card 244 shows work of a child between ages 3+10 and 4+2. The work at the earlier age is better than that at the later age. I conclude that this child has good capacity, but for some unknown reason, probably of emotional nature, the child lost interest in drawing. Therefore a person seeing only the later drawings could consider the work retarded. It is not, because the earlier work is good. I call such work regressive.

This card also shows six drawings made by a child within ten minutes, as I watched him. The first three are not regressive work, but visual exercises ranging from simple Diagrams through Aggregates to Animal in one short span of time.

Card 245 contains drawings which I call Hidden Treasures because they contain subtle evidence of how far along in the developmental stages the child has progressed. One has to be an expert to appreciate these works as evidence of child mental ability and of artistic capacity. Let me hasten to add that none of these drawings gives any evidence that the child's mind or emotions are out of order.

Part 23. Not Otherwise Classified

Card 247 contains children's drawing of a hand, or probably a drawing of a child's hand. I think these drawings are stimulated by the image of the child's hand lying on the paper to keep it in place while drawing. There are no drawings of feet, and these hands are the only drawings of human anatomy which are realistic. Instead, Humans are always drawn symbolically and esthetically.

Card 248 contains work which shows mental capacity to make simple structures, but they are not drawn decisively. Works of this kind can be done by a child who does much better work. Only when such drawings dominate a child's output, could they be called poor work.

Card 249 shows work which was never finished. Unfortunately too little time is allowed for art in school, and children are not encouraged to keep an unfinished drawing to complete at another time.

Card 250 contains works which are somewhat unusual, for one reason or another. They hold my attention being neither commonplace, nor especially remarkable.

Part 24. Other Data

Part 24 contains photographs of children at work, of their clay work, easel paintings, and fingerpaintings, showing that structural content is similar in all preschool work. Other miscellaneous pertinent data are also presented. The drawings from various countries are reductions of tracings of excerpts of drawings—ages 4-7.

CONCLUDING STATEMENT

These microfiche bring to the viewer a large quantity of child work which has been so organized as to interest adults and allow them to become more familiar with child art, without handling 8000 drawings. The material is organized so that it can be added to at any time. Added cards would be coded, for example as P1a for additions to the Placement Pattern 1 category. For some of the classifications it would be easy to add examples, as they are numerous; for others the material is too seldom made before age six to obtain much more.

A second series of microfiche for ages six through eight can be done from my Collection, if there is demand for them. Microfilming sets of works of individual children might be valuable.

There are probably some mistakes in markings on these drawings, because the chances of writing a wrong number or letter are great. However, the viewer should look twice before deciding an error has been made. Often I have thought I made one, and on second look and thought, discovered it was right. To repeat, there are so many ways of looking at child art, that is, so many mental approaches to it, that the viewer must concentrate on the one indicated on the Card Title to understand this presentation, which takes some mental effort. The complexities of the drawings surely indicate that the human mind in childhood is worthy of great respect by the adult mind. If adults could act with such respect toward children great changes could be wrought in their education at home and at school.

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GLOSSARY

The following words are defined with specific and limited meanings as used in my writings about child art. Some of the words have different meanings which should not be confused with the definitions here given in this limited context.
R.K.

Abstracts Non-pictorial structural work.
Added Lines Lines which reveal a lifting of the crayon, and their placement under eye control.
Aggregate Three or more Diagrams drawn on one paper.
Analysis Discussion of drawings as line gestalts limited to the context of this material.
Arc A right angle, quarter section of a circle.
Arch A half section of a circle.
Arms Areas or lines attached to what could be called a "torso" on a Human.
Balance Arrangement of markings in relation to the paper's area, or to a gestalt.
Base Line Refers to lines along the bottom of drawing as seen by the viewer.
Build-Up A structure made by scribbled lines contained within an implied area not necessarily outlined as such.
Centeredness A balanced arrangement of marks in the center of the paper, or in the center of a gestalt.
Circle A circular or oval area.
Circular Line moving along a curved arc.
Combine Two Diagrams drawn on one paper.
Content Refers to all that the drawing contains as viewed by the adult for purposes of identification and discussion.
Design A structured abstract gestalt of some complexity.
Diagonal Line going from corner to opposite corner.
Diagram Any one of the following six shapes: A circle and/or Oval, a Square and/or Rectangle, a Diagonal Cross, an upright or Greek Cross, a Triangle, an Odd Shape.
Drawing A paper containing marks of any kind.
Emergent A drawing having some characteristics of the stage ahead into which the child is moving.
Esthetic Pleasing to the eye in terms of Placement Patterns, or other organization.
Fan An area produced by Pattern 12.
Figure A gestalt.
Fill-in Scribbling contained within an outlined area.
Gestalt The image, or images, which the eye and brain organizes out of the markings on the paper.
Ground The total area of the paper.
Hands Markings at the end of areas or lines which could be called Arms on a Human.
Hat A marking on the top of a Human or Face, which may or may not represent a head garment.
Horizontal Line going from one short side of the paper to the opposite side.
Human A gestalt having what is commonly called a "face" and/or "arms," "legs." A "torso" may or may not be present.
Humanoid A gestalt which has some of the Human's characteristics, but is not a valid Human.

Implied Shape An imaginary line which can be drawn around the outermost parts of a gestalt on the paper, and results in producing a shaped area.
Inherent A gestalt which can automatically appear in a spontaneous scribbling and therefore may be done with or without eye control.
Mandala A symmetrical area divided by lines into four, six, eight, or sixteen sections, or an area divided by lines concentric to the perimeter.
Mandaloid A gestalt suggesting Mandala balance in overall appearance.
Markings Lines of any kind, including dots.
Merging A scribbling which takes the form of one Scribble, and then produces another Scribble without a lifting of the marking instrument.
Motif Gestalt used as repeats in a drawing.
Movement The directional flow of lines on the paper, vertical, horizontal, diagonal, circular.
Pictorial A Structure which is acceptable as a child's representation of an object seen by the child.
Placement Pattern The arrangement of Scribbles, Structures or Pictorials on the paper, as described in Part 2.
Pre-diagram A drawing in which the scribbling produces open areas. Applies only to work of two- and three-year-olds.
Pre-Sun Gestalt which has lines intersecting an area which is not a full Diagram.
Pyramid A triangular area.
Queer Mixtures Structured work mixing Pictorials and Abstracts as gestalts which make esthetic, but not pictorial sense.
Radial A spot or a tiny area having many lines radiating from the center.
Rays Lines going out from a Sun's circumference or Radial's center.
Regressive Persistent drawing only at a lower level of achievement than the child is able to do as seen in former work.
Scribble One of the twenty marks listed as the twenty Basic Scribbles.
Scribble Mixture Combinations of Scribbles which are unstructured as Diagrams, Combines, Aggregates or Pictorials.
Scribbled Over Scribbling inside and outside a structure with no regard for outlines.
Scribbling A Scribble or Scribble combination produced in early stages before the child can make structured work.
Skyline Refers to lines along the top of the drawing as seen by the viewer.
Square A rectangular or squared area.
Stages of Development Refers to four sequential periods: 1) Scribbling in Patterns, 2) Outlining Shapes, 3) Structuring Designs, 4) Drawing Pictorials.
Structure A gestalt made by controlled use of separate lines for Diagrams, Combines, Aggregates, Pictorials.
Style Refers to individual preference for large or small areas, line textures, neat or casual drawing, preferences for Placements and Structures.
Sun A Diagram area having spaced radiating lines intersecting the perimeter.
Textured Scribbling Solid scribbling where texture rather than shape is the interest.
Top-Bottom Refers to the top and bottom of paper as seen on the microfiche. This may or may not be the way the paper was placed when the drawing was made.
Torso Area under a Face, with or without Arms or Legs.
Triangle A three-pointed area with curved corners or with sharply angled corners.
Vertical Line going from one long side of the paper to the opposite side.

STATEMENT RE SOURCES OF DRAWINGS AND THEIR PRESENTATION ON MICROFICHE

The microfiche process can reproduce two 8½" x 11" drawings to each "frame" for the camera, if they are placed side by side vertically. Only one horizontal drawing can be reproduced on one frame. To give the viewer maximum material, two drawings are shown in each frame and the card, or the viewer's head, can be turned to see each drawing as desired. A vertical placing of the card in the viewer is best. The age of the child is in the same place in each drawing, regardless of which way the drawing reads best. Small writing is used so as not to distract the eye from the drawing.

Selecting drawings to photograph was difficult for the following reasons. Yellow lines do not reproduce; only a few could be retouched. The 9" x 12" drawings which could not be suitably trimmed had to be eliminated. The ones where the teacher had sprawled names on the face of the drawing had to be excluded, or covered with snow-pake which shows up as a blotch. Two drawings by one child could not be shown on one fiche. Drawings not marked for age were eliminated. Those marked as kindergarten work are shown as age 5, since age 4 years, 9 months is entrance age for kindergarten in California. Some drawings were no doubt made by older 4 year olds but, since this is not a statistical study, the monthly age is not so significant after the 4th birthday. Sequential work of an individual child between ages 2 and 5 does not appear on these fiche, but will be filmed separately if the demand warrants publication.

The number of children whose work is here shown is unknown. Some teachers in the public schools and child care centers who attended classes in child art which I gave for the University of California Extension Division from 1953-1960 brought me about 30,000 drawings of children under age six, and I had access to work of children aged 2-4 years in the Golden Gate Nursery School. The latter I used sparingly to avoid any critical doubts about its being influenced by the school's environment. The number of children whose work is represented here runs into the thousands, as few as 5000 or as many as 8000—enough to be significant without an exact count being known.

Photographs of children were made by Robert Overstreet and photographs of clay work were made by Ralph Putzker. To the hundreds of teachers who collected, named and dated the drawings in my Collection, I am everlastingly grateful.

Rhoda Kellogg