PLAY
and the Social Context of Development in Early Care and Education

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CHAPTER 12

Constructive Play
A Window into the Mind of the Preschooler

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Jessica, a tall, serious 5-year-old, spots her younger friend Jonathan, who is walking aimlessly in the nursery school's yard holding a tiger hand-puppet. "Let's make a house for your tiger," Jessica shouts enthusiastically as she nears him. Jonathan, who often plays with Jessica, likes the idea and they both head toward the block area inside the school.

An entire wall space in their school is filled with wooden blocks of widely differing sizes, and—to the silent horror of the teacher supervising the inside area—they take down almost all the blocks as they busily build a "house" that keeps getting bigger and bigger. For most of the time, the tiger hand-puppet is lying at the side, as they are totally absorbed in their building activity. Jonathan hands the blocks to Jessica, who seems to be the architect of their elaborate structure. By the end, all three—Jessica, Jonathan, and the hand-puppet—have their own private rooms surrounded by extra walls, rooms, bridges, and so on. However, they don't get much of a chance to play in their structure because school is almost over and the teacher urges them to clean up as the rest of the children start gathering around for story time.

For several consecutive days after this initial incident, Jessica and Jonathan come back to the block area and build elaborate and intricate structures. Sometimes it is a "house" for them, sometimes it is for them and their favorite animal, and sometimes it is "just a building." More often than not, it changes character and identity as they build it. Sometimes they use the structure as a stage for their dramatic play, but often their play consists entirely of block building. They enjoy themselves

every time, and their involvement continues day after day and for long periods each time. (from my observations as a nursery school teacher, Berkeley, 1982–83)

How well do we understand the play activity of these children, an activity quite common among young children? What holds their attention and interest for such long periods, so that they end up constructing these elaborate and intricate structures day after day? Why do they find this activity interesting and fun, although they often take the structures down as soon as they build them? Are they simply interested in depicting the world, or do spatial and aesthetic properties equally hold their imagination?

Current Research and Interpretations: Defining the Problem

Young children's building activities have attracted the attention of educators and psychologists since the first nursery schools. Early in the century, several studies were conducted to document young children's block play in "progressive" nursery classrooms (e.g., Guanella, 1934; Hulson, 1930; Johnson, 1933; Pratt, 1948). Building blocks were immediately recognized as a symbolic medium for children; psychoanalysts, for example, have used block play as a means to get into the psyche of the young child (e.g., Erikson, 1972; Klein, 1955). On the other hand, cognitive psychologists set out to formulate developmental stages that captured the increasing spatial and constructional complexities of children's constructions with age. Based on these stages, sample construction tasks have been introduced into psychological and educational tests designed to assess the spatial and cognitive development of young children and to measure them against "normal" development (see discussion in Vereecken, 1961).

Although children's constructions were recognized early on as being both spatial and symbolic in character, these aspects have been analyzed as if they were entirely separate and autonomous from each other. With respect to the first aspect, research on constructive play has characterized in detail the different levels of the elaboration of space that children achieve (e.g., Forman & Hill, 1980; Inhelder & Piaget, 1969; Langer, 1980, 1986; Reifel & Greenfield, 1982; Vereecken, 1961). At the first level (from 6 months to 1 year), infants use blocks in nonspatial ways; that is, they handle mainly single objects, and, as far as their handling extends to more than one object, their interest centers on physical relations (e.g., hitting, rolling) rather than on spatial properties emerging from the combination of objects. It is only during the second stage (second year of life) that children make linear arrangements of objects, either vertical or horizontal. Then, in the third stage (beginning around the end of the second year), they begin to elaborate bidirectional or areal arrangements, eventually producing enclosed horizontal spaces. During the fourth stage—at around three years of age—children construct solid tridimensional structures, which soon give way to enclosed tridimensional spaces. Children's constructions may also include further elaborations such as openings in walls, adjacent structures, "stories" or layers of enclosure, bridges, and so on; but once the fundamentals of space are mastered, there is great diversity in development and we can no longer talk of "stages." Furthermore, after children reach a higher stage, they do not discontinue the use of earlier forms (e.g., Forman, Wolf, Scarlett, Shotwell, & Gennari, n.d.; Guanella, 1934). The chief focus of this research, then, is on the dimensionality of constructions and the gradual move from one, to two, and then to three dimensions.

In this literature, a construction is usually defined as symbolic when children claim—whether spontaneously or not—that their construction depicts a thing in the real world (e.g., "house," "boat," "railroad"). Research has shown that the development of such "symbolic"—that is, mimetic or representational—constructions increases remarkably from about 1 to 7 years. In particular, these constructions come to conform more and more to the actual form of the thing represented; this change in form reflects an increased sensitivity to both the object's contour and its details, as well as to the internal relation of the parts to the whole (Guanella, 1934; Johnson, 1933). Exploring this development in more detail, Reifel and Greenfield (1982) demonstrated that as children grow older their symbolic constructions increase in spatial complexity.

Previous research, however, has rarely paid serious attention to the interplay between the spatial and symbolic aspects of constructions. The neglect of these issues by researchers is probably due in part to their rather narrow interpretation of the"symbolic" element in block play, by which they refer only to those constructions that depict or copy objects in the physical world. Given this narrow definition, a large number of children's constructions appear as "simply" spatial in character and are examined purely in terms of their spatial complexity and dimensionality. The question of why children are interested in making these constructions is, curiously enough, rarely addressed directly; but it seems to be assumed that children have an interest in aligning objects and fitting them together which has no connection to the symbolic properties of the constructions.

However, the symbolic element in human activity cannot be reduced to the direct representation of particular objects. Equally symbolic are those constructions that derive meaning from their formal or aesthetic properties, and that elaborate the structural and aesthetic possibilities of the materials used in making them. Wolf and Gardner (1979) have shown that some children—whom they call "patterners"—choose to elaborate the structural and formal elements of the materials (medium) provided to them, while others—"visualizers" or "dramatizers"—depict objects in the world. What this distinction captures, the present study suggests, are two different styles of symbolic activity—or, perhaps, two different aspects of children's symbolic imagination. When children make designs (or abstract patterns), they elaborate aesthetic principles that are realized by utilizing successfully the inherent structure of the medium. In the case of the "dramatizers" the focus is less on formal aesthetic principles, and more on depicting and copying objects in the world. In both cases, what is involved is an attempt to master the internal possibilities of the medium for symbolic ends. Investigations that address the symbolic dimension of both of these forms of activity can help provide a better understanding of what guides and holds children's interest in constructive play.

The Present Study

Theoretical Concerns and Method

Adopting this broader definition of "symbolic," the present study explores the interplay between the spatial and symbolic aspects of children's constructive play, taking into account not only the final constructions but also the processes by which they were constructed. From a developmental point of view, what is particularly interesting is to investigate the relationship between the level of spatial elaboration of the constructions and the nature and degree of symbolic activity they embody.

Tracing this relationship developmentally allows us to raise the question of what kinds of interest motivate children's involvement in constructive play, and of whether the saliency of these interests changes over time. That is, what is it about constructive activity which holds children's interest; what provides an impetus for them to combine and recombine the objects in new and different ways; which combinations do children find satisfactory at different ages, and so on? To what extent are children guided by an interest in spatial elaboration for its own sake, as a number of studies seem to assume? (We will see that, at certain points, children do seem to use objects simply to fill up space in a fairly random way.) To what extent are their constructions motivated by symbolic concerns, both representational/mimetic and aesthetic/expressive? Do these different concerns develop independently, or do they feed into each other? And to what extent is the structure of their motivation uniform or shifting over time? By paying close attention to children's activity during the building process, we can reconstruct and follow their emerging intentions.

A guiding assumption behind this investigation is that the constructions emerge from a complex interaction between the children's intentions, on the one hand, and the inherent structure and possibilities of the medium, on the other. The set of objects children use in their constructions has an implicit structure, which they come to master gradually as they combine and recombine the objects in the attempt either to elaborate aesthetic principles or to depict the world. The extent of their mastery, and of their capacity to achieve spatial elaboration, must constrain the extent to which children can achieve their symbolic intentions. At the same time, the inherent structure of the medium, as children come to grasp it, will itself influence the nature of their constructions and will affect the kinds of symbolic possibilities they come to discover.

Beginning to grasp the interplay between the spatial and symbolic elements in children's constructions, and the way in which this interplay is affected by the structure of the medium, can improve our understanding of what captures the children's interest in this activity and how this interest changes with age. Such understanding can help teachers direct and enrich constructive play more effectively—whether on the playground, in the arts corner, or even at the science table.

Research Design

Such an investigation requires that we be able to pay systematic attention to the inherent structure of the medium and to the ways in which the children master and utilize it. Because the typical wooden blocks that one finds in almost all nursery schools are far too numerous and too structurally open-ended for this purpose, I decided to construct new materials with a well-defined structure. These comprised four sets of 16 objects apiece that were designed to meet the following criteria: (1) the objects were large enough for young children to manipulate easily; (2) they were not so numerous that children would find it difficult to use the whole set; and (3) each set of 16 objects had a structure defined by systematic variations of perceptual properties (shape, color, and size) to which young children are sensitive. In this chapter the presentation of

results will be limited to the first two sets, which varied only by shape and color (i.e., all were of roughly similar size). For easy manipulation of all these properties and their combinations, the pieces were made out of colored cardboard by gluing two identical sides together so that each piece did not have a distinct front and back. The pieces were abstract geometrical shapes that resembled puzzle pieces.

Each of the two sets under discussion, therefore, had its own distinct structure. In each case, four shapes and four colors were used. In the *first set,* each shape had a distinctive and uniform color; thus, shape and color coincided. Each shape was thus represented by four identical objects (see Figure 12.1).

In the *second set,* shape and color varied independently, so that each shape was combined with four distinct colors (see Figure 12.2). It should be mentioned that the four colors making up each of the sets were chosen so that they were perceptually pleasing in juxtaposition.

Twenty-four children played with the objects, eight at each of three ages: 3, 4, and 5 years. Each child was invited individually to play in a room adjacent to the grounds of the preschool, where the entire session could be videotaped. Each child was presented with the two sets of materials consecutively in the order described above. The children were asked to "make something" with the pieces and were allowed to play freely with them and make anything they pleased. As the author of this chapter—who was a teacher's aide at the school—observed the children, she encouraged their efforts all along and also tried to maintain the same kind of interaction that they would have had as a pair on the school grounds.

Basically, the author aimed at striking a balance between being nondirective while also maintaining and sustaining the child's interest in the activity. When children did not use all of the objects spontaneously, she urged them to do so. After they had finished playing with the objects, she asked if they had "made something," unless they provided this information spontaneously. The majority of the children did provide this information spontaneously, either announcing in advance that "I'm going to make [this or that]" or announcing afterward that they had "made [this or that]" during the construction process.

The children were left free to play as long as they wished. The end of a session was always signaled by the child: Either the child sat back in his or her chair, drawing his or her hands away from the materials, and looked at the adult contentedly as if saying "here it is"; or the child pushed all the objects toward the adult; or the child told her that he or she was done; and so on.

FIGURE 12.1. First set: Shape and color coincide.

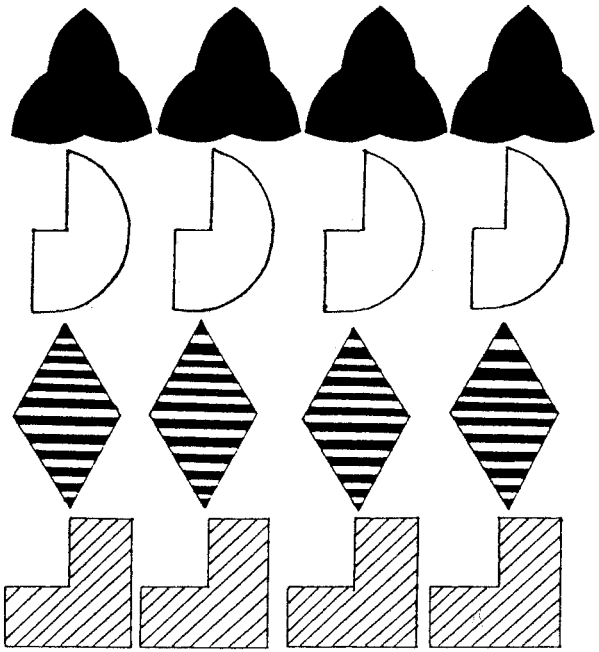
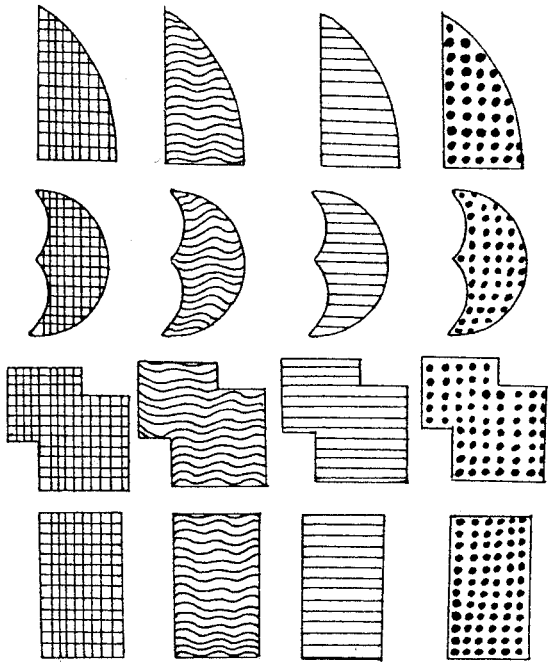


FIGURE 12.2. Second set: Shape and color vary independently.



Children's Spontaneous Constructions: Process and Product

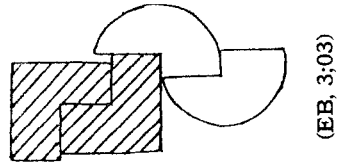
Three-year-olds

Although the sets of objects were rather novel, even 3-year-olds seemed to regard them as puzzle pieces. They interpreted the task of "making something" as fitting the pieces together and/or aligning them. The majority of the 3-year-olds made several constructions that included a few objects apiece (the most frequent were 2- to 4-object constructions). Only two of the children made single constructions that included all 16 objects. Furthermore, in making their constructions (whether single or multiple), 5 of the 8 children exhausted all 16 objects from the first set of materials, but only 2 children exhausted all of them from the second set. This suggests that 3-year-olds encountered more difficulties when attempting to arrange and order the objects of the second set, where color and shape did not coincide. (This is not simply because they were losing interest after the first set, as some readers might imagine. When presented with the third set, many of the children exhausted all the pieces in their constructions. Thus, it is the characteristics of the different sets, rather than the order of their presentation, that is the crucial variable.)

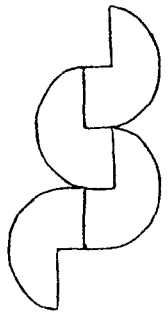
While most 3-year-olds' constructions used a small number of pieces and were one-dimensional in spatial elaboration, they already manifested aesthetic qualities such as repetition and alternation, symmetry and harmony. When color and shape coincided, the constructions had a clear thematic structure (e.g., the children used identical objects or grouped them into clear oppositions). Furthermore, objects of the same shape were connected by placing them in identical (repetitive) or complementary spatial orientations (Figure 12.3). (The information under each construction gives the child's initials and his or her age in years; months.)

When color and shape varied independently, the patterns children made were mainly symmetrical in character, with a tendency toward spatially closed forms. Two-piece constructions might match pieces of the same color; but, when the constructions included more than two objects, they did not show a clear predominance of any single shape or color. In general, in the complex constructions (i.e., more than two pieces) children seemed to pay more attention to shape than to color (Figure 12.4).

Thus, "patterning" is clearly in evidence. On the other hand, only one child in this age group (JA, 3;04) can reasonably be called a "dramatizer." While making and arranging constructions with both sets of ob-



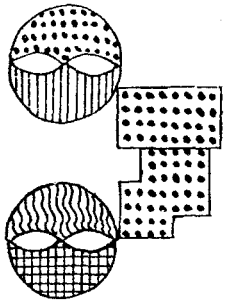
(EB, 3;03)



(AT, 3;02)

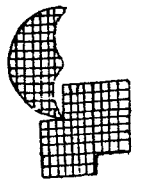
(JA, 3;04)

FIGURE 12.3. Constructions by 3-year-olds (first set).



(JA, 3;04)

(EB, 3;03)



(KK, 3;02)

FIGURE 12.4. Constructions by 3-year-olds (second set).

jects, she gave a representational/symbolic label to several single objects (e.g., "flower," "Mary kneeling") and also—more rarely—named some combinations of objects. She was not the only child who used symbolic labels for objects or constructions, but she was the only one who did so with any consistency; naming the objects was a mode that she used persistently with both sets of materials, while the rest of the children provided a representational/symbolic label occasionally at most. About half of the 3-year-olds used a representational/symbolic label at least once for a single object or for one of the constructions they made. Overall, the representational/symbolic labels invoked by this age group were applied overwhelmingly to single pieces rather than to constructions. Furthermore, they seemed to be based largely on the shape of the pieces, which reminded the children of single objects in the world, such as "a flower" or "an umbrella" (and not, for example, on collections of objects or on action scenarios). This symbolic naming did not seem to be very different from naming these pieces as a "square" or a "diamond."

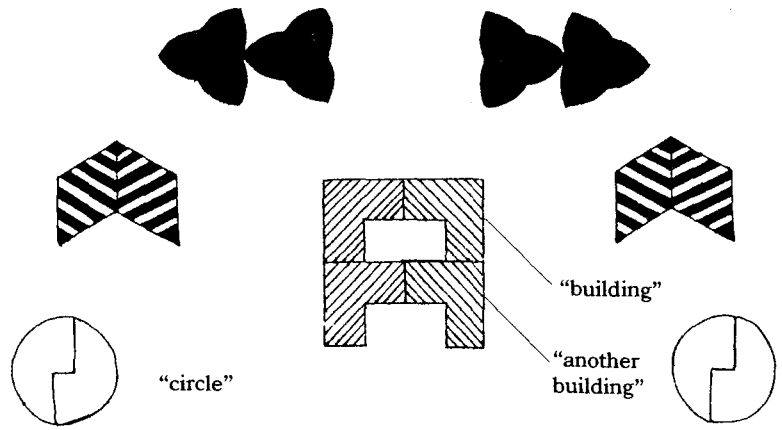
We can conclude that, at this age, the aesthetic and formal properties of the medium capture the children's imagination much more than the representational/mimetic possibilities; the children devote their energies primarily to elaborating the internal structure of sets of objects presented to them. But even so, aesthetic and formal elaboration was almost always limited to single constructions. Only very rarely did we observe a clear thematic or aesthetic relationship between two spatially separate constructions. Even when there was a thematic relation between separate constructions, it was usually not spatially articulated. Children would make a construction and either leave it on the side or push it away before they went on to make a new one. In some cases, while from the observer's point of view the constructions seemed to have a common theme, it was not clear whether the child intended this. In one case, for example, the child was placing together pairs of identical objects; but as soon as he finished with each single construction, he pushed it to the side before he went on to make another construction connecting pairs of identical objects. They were not connected in an overall construction.

In the few cases where a spatial relation between several different constructions was achieved, it was again based on the formal aesthetic properties of repetition, alternation, and symmetry. Figure 12.5 shows an impressive example.

Four-year-olds

Four-year-olds spent more time than 3-year-olds in making constructions, and about half of them used all 16 objects with both sets of

FIGURE 12.5. Complex construction by a 3-year-old (RR, 3;01), articulating spatial relations between component constructions.



materials. They seemed very keen on creating a connected areal space; and about half of them were quite intent on fitting the pieces together well. They also seemed to be more eager to make constructive use of the diversity of shapes and colors provided them. They not only tried to fit together identical shapes, as did the 3-year-olds, but were equally likely to try to fit together objects of different shapes. Whenever 3-year-olds tried to fit together differently shaped objects, they tried very briefly and quickly abandoned them for identical shapes. In contrast, 4-year-olds tried for long periods of time to fit together objects of different shapes; and, when they abandoned one of these efforts, they tried again with different combinations.

Six of the eight 4-year-olds showed a concern to elaborate a connected areal space. Two distinct trends were discerned in the ways that they pursued this goal. One group used all 16 objects, but did not appear to attend carefully to the properties of objects (i.e., shape and color). Rather, they kept adding objects in loose physical contact while working cyclically around a central configuration. The objects merely covered the space, and the children did not spend much time fitting or even aligning them together; they simply kept adding more until all the objects were exhausted. The final construction had no thematic structure. In these respects, there was no clear discernible difference between the two sets of objects. While children did not spontaneously give any indication

that their construction was representational, when the adult asked them, "Is this something?" they readily gave it a generic name like "castle," "circle," "Christmas tree," "colors of the sea." This was true even when the construction did not *appear* representational to the adult observer.

The second group also showed a concern with connected areal space, but they tried to leave no speck of space uncovered. They tried repeatedly to achieve this impossible goal, so that they managed to work with only a few objects. In these cases, the adult reminded them more than once that the pieces they were manipulating did not fit well together. They invariably ignored her and kept on with their task. Once a child answered back, "But they have to!" After various unsuccessful attempts, the children finally allowed themselves to be satisfied by some partial construction they were able to form; thus, they indicated they were finished as soon as they had achieved a symmetrical design or when they had discovered a new thematic relation, as in Figure 12.6. This group, unlike the first, rarely identified their constructions as representational.

Among the 4-year-olds, we observe a new reflective and playful attitude, which had only a fleeting appearance among the 3-year-olds. Four-year-olds allow themselves to be carried away by new properties that emerge as they are trying to articulate their initial inclinations. In some cases, this tendency is combined with a new sophistication in their symbolic activity. For example, after the adult asked one child if her construction was something and she answered "Christmas tree," she spontaneously went on and remade her previous amorphous cyclical construction to give it more the shape of a tree. Another 4-year-old arranged the objects of the second set by shape and placed all 4 objects of each shape in a stack. Then, she superposed each stack of identical shapes on top of another stack, making a tall construction. As soon as she was finished, she looked at the stack and said "it's all different colors"; then she went on to separate the objects into four piles, each containing objects of the same color.

Furthermore, these newly emerging properties can have a greater hold on the child's imagination than suggestions from the adult. One child (LA, 4;03) was nearly finished making four distinct constructions that contained identical objects (by shape and color). She was working with the objects of the fourth shape and was fitting two of them together, making a shape that looked like a circle. "I made a circle," she declared immediately and went on to replicate the circle with the remaining two identical objects. She observed carefully the circle she had just made saying, "Let me see, how did I do that?" To replicate the circle, however, she needed first to flip one of the pieces. After a while, the adult tried to

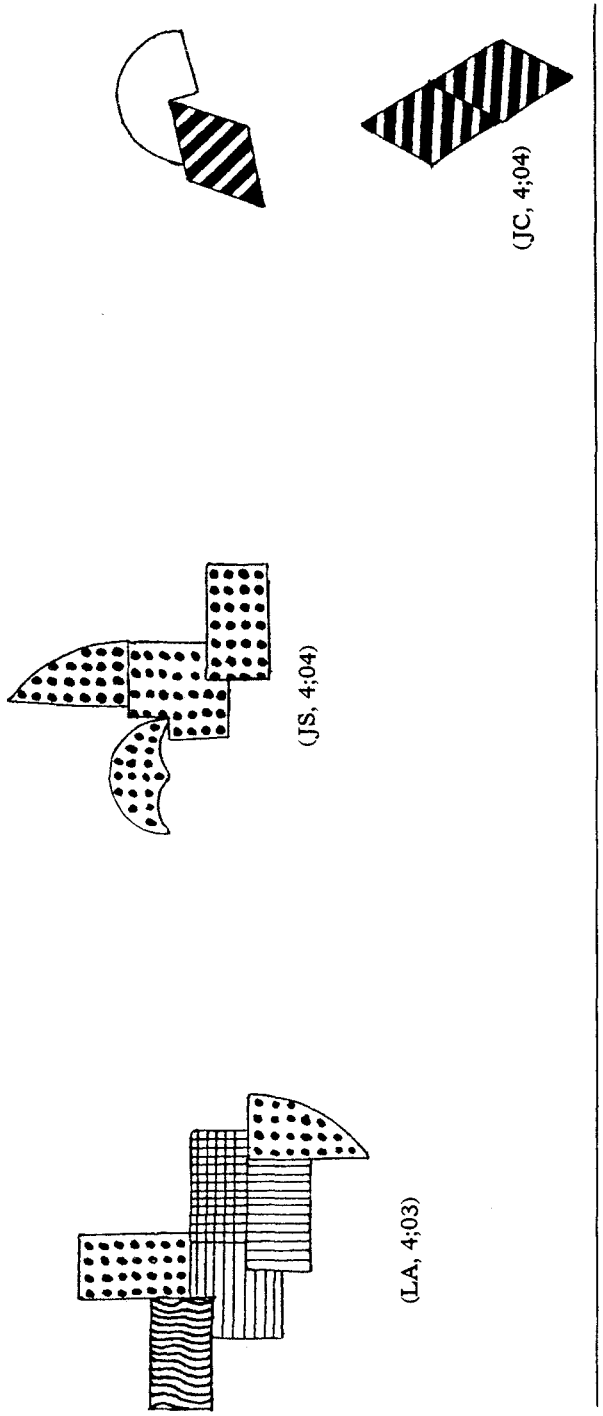


FIGURE 12.6. Nonrepresentational constructions by 4-year-olds.

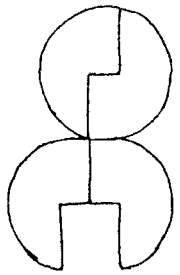
help her, suggesting "Maybe you can turn one over," and guiding her and pointing to the piece. The child briefly tried to follow but instead of flipping one of the objects, she again rotated both pieces and kept trying to fit them together until she obtained a new shape. Then she declared to the adult—who was still trying to help her flip one of the objects—"supposed to be a bridge." Next, she brought some differently shaped objects and fitted them into the construction she had just made. She added a blue diamond under it and remarked, "That's the water," then placed over the diamond an orange corner piece, saying, "In the water, there are some branches . . . to have some branches, too." Then, she took both the water and the branches out and, looking at both initial configurations, said, "That could be a . . ."—then, fitting them and arranging them, she completed her sentence, "That could be a person." The adult did not appreciate the fluidity of the child's imagination at that moment and completed the child's utterance by saying, "On top of the bridge." By then the child had brought together what she previously called the "circle" and the"bridge"; pointing to the former "bridge" she said, "Here is arms"; and then, pointing to what she had previously called the "circle," added, "and here is head" (Figure 12.7).

In this case, we witness how a reflective attitude leads the child to observe several new properties emerging from her attempts to spatially combine the objects, and how she slowly arrives at a symbolic depiction that seems to her more satisfying.

Five-year-olds

The constructions of 5-year-olds show a marked advance over those of younger age groups. They arrive early on during the constructing process at thematic or symbolic themes that they come to express through their constructions. All of them were able to exhaust all 16 objects given to them for both sets of objects. Without any reminder from the adult, they immediately perceived that all 16 pieces did not fit well together as a space-filling "puzzle," and went on to combine them flexibly. Instead of merely aligning same sides or fitting complementary pieces, they connected the objects in a flexible way by combining corners or merely placing the objects next to each other, led by the overall graphic properties of the whole that they were trying to construct. In this way, although the 5-year-olds' constructions were still two-dimensional, the areal space that the constructions elaborated was not simply connected and filled space; rather, their designs involved a deliberate combination of filled and empty spaces. Furthermore, the children could easily perceive in the objects thematic or symbolic properties that they could use to further

FIGURE 12.7. Fluid representational construction by a 4-year-old (LA, 4;03).



organize the objects. Thus, objects of different shapes were extensively placed next to each other; in contrast, when younger children exhausted all the objects, they mainly kept apart differently shaped objects. In this way, the 5-year-olds' constructions show an interplay of same and different objects through continuous and discontinuous space.

It is only with this age group that we can clearly differentiate children into patterners and visualizers/dramatizers, with each group encompassing about half of the children. The patterners, in particular, were able to articulate even the most subtle properties that had been worked into the design of the two object sets. For instance, in each set two shapes were curvilinear while the two others were rectilinear; in each pair one color was light and one dark. One 5-year-old (EF, 5;05) made four exact replica designs, with each design containing, in order, two rectilinear and two curvilinear objects. Another child (AV, 5;01), after making four initial constructions that contained identical objects, announced that she was shifting criteria ("now I'll switch"), and went on to mix curvilinear and rectilinear shapes. In a similar way, after she had made four constructions of identically shaped pieces with the second set of materials, she again announced that she was going to shift; but this time she went on to change the order of the objects in each construction, trying to make sure that all of them had the same internal order by color: Each of the constructions (Figure 12.8) contained a dark and a light color (red and yellow) followed by another dark-light pair (green and turquoise). (In one construction she was unsuccessful; this may have resulted from the difficulty of ordering both shapes and colors properly.)

Among the patterners, the relation between constructions is well articulated: The designs are replicas of each other or repeat the same prin-

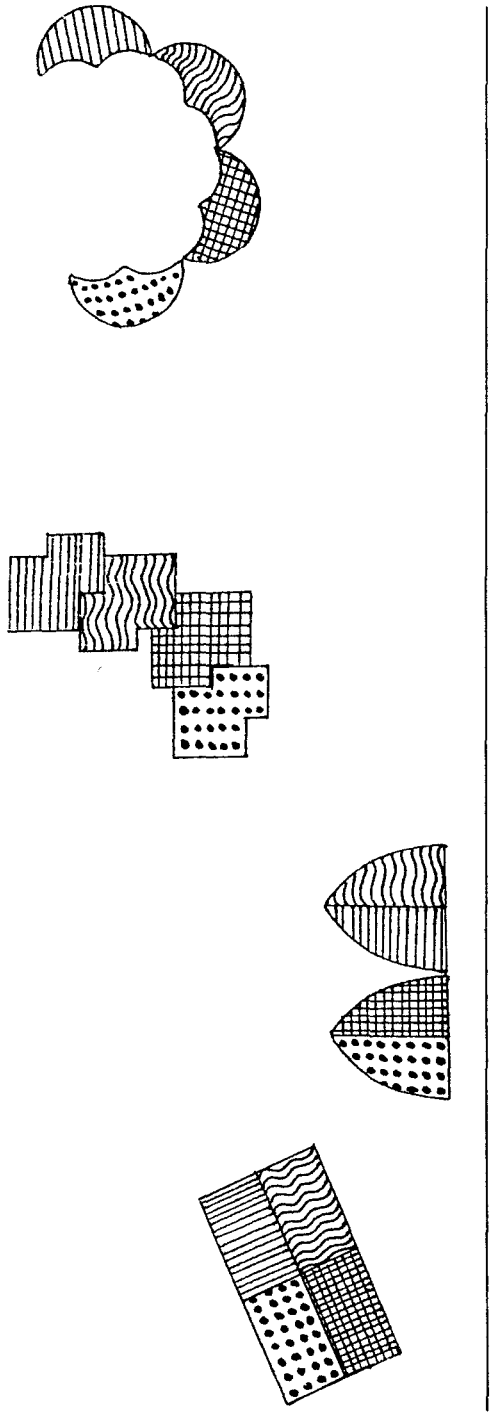


FIGURE 12.8. Complex expressive construction by a 5-year-old (AV, 5;01).

ciple (e.g., the order of colors within a construction, or the order of shapes). Among the visualizers, on the other hand, the different constructions tend to be connected through the representational themes the children are using; and the children attempt to represent, not only discrete objects, but scenes or situations. For instance, one child (JT, 5;05) made two identical sailboats with waves and a building where the sailboats could anchor. Another child (JB, 5;04) made two robbers and two houses for them to rob.

The Interplay of Spatial and Symbolic Capacities

Children from all three age groups undertook the task of "making something" willingly and playfully. They set themselves ambitious goals, even though their success in carrying them out differed considerably. All had a tendency to overreach their capacities occasionally, but all were able to realize their intentions with some degree of satisfaction. On the one hand, since the task was so open-ended, with no clear-cut right or wrong answers, the children clearly enjoyed the opportunity to explore and make discoveries along the way. On the other hand, since the set of materials provided to them had a well-defined structure, it was possible to capture their intentions—whether emerging or preformed—as well as trace any difficulties or hindrances they encountered in carrying them out.

Even 3-year-olds were sensitive to the possibilities offered by the materials provided to them for both spatial elaboration and symbolic expression. They fitted or aligned objects that were identical in shape and color, or combined different objects systematically. Their constructions articulated general aesthetic principles such as symmetry and harmony, repetition and alternation.

Three-year-olds quickly lose interest in their constructions and do not try very hard to articulate relations between them. As children get older, their constructions start gaining greater temporal and spatial stability; and this goes together with a more reflective attitude, which it presumably both reflects and invites. The stability arises either from the successful elaboration of areal space or from the consistency of using the same criteria in organizing objects. As children encounter difficulties carrying out their intentions, they allow their imagination to be captured by new properties that emerge during their efforts to combine the objects. By 5 years of age, the children can immediately attend to both general themes and specific details; and their constructions attest to a flexible coordination of specific and general properties, which allows them to incorporate the entire set of objects.

At each age, we observe a close interplay between the spatial and symbolic aspects of constructive activity, with each presupposing and shaping the other. At first, children focus on one aspect; as they experiment with it, new difficulties and possibilities emerge in the other, which sooner or later capture the children's imagination. It is this gradual, interdependent process of elaboration that allows children to discover both spatial and symbolic properties of object combinations. By 5 years of age, children come to perceive quickly all the relevant properties of the objects, so that spatial and symbolic possibilities are pursued simultaneously. They combine the objects spatially in a flexible way in order to express either representational/mimetic themes or formal aesthetic properties of the medium. In short, spatial elaboration and mimetic or aesthetic expression do not constitute a rigid form-content distinction, with spatial elaboration fulfilling the role of form and symbolic expression that of content. Rather, it is their continuous interplay that guides the children's interest and imagination.

Some Implications for the Classroom

This in-depth analysis of children's play reveals how much "at work" young children are when they playfully combine objects, make interesting designs, make "buildings" and "cities," or even depict scenes from their everyday world. As they elaborate their initial themes and apply them to more objects, they discover new possibilities, which, in turn, they use to organize the objects more ambitiously and in different ways. The process that the elaborations undergo is not different from those observed during children's pretense play in the nursery school's doll corner or on the playground (Monighan-Nourot, Scales, Van Hoorn, & Almy, 1987). As recent studies reveal, play continues to be the mode through which children come to learn even later in life (Dauite, 1989; Dyson, 1987).

In addition, the methodology used in this study, which embedded a well-defined structure in the materials for children to "discover" in their play, can be used to inform the "implicit curriculum" utilized by educators (Monighan-Nourot et al., 1987). Teachers who are interested in helping children expand their world while playing could construct materials according to the principles that they are interested in conveying to the children (e.g., geometrical or aesthetic principles). An important advantage of attending to implicit curricula is that teachers must take the child's point of view when constructing them, because their success depends on how well they appeal to the sensitivities and concerns of young children. The sensitive teacher might expand these structures or settings further by incorporating the children's achievements and accomplishments during play. It is time, then, for both psychologists and educators to realize that play is, among other things, a powerful form of learning, which must be fostered and utilized rather than driven away from the classroom.

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