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The Development of Play in Infants, Toddlers, and Young Children

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The developmental domain of play is critical to early intervention efforts. It often may be one of the few areas that can be reliably and validly observed in infants, toddlers, and young children with, or suspected of having, developmental disabilities. It is imperative that professionals involved in early intervention efforts have a deep and broad knowledge and understanding of play. This article, the first in a two-part series, presents a comprehensive, illustrative review of the development of play in infants, toddlers, and young children.

Early intervention personnel have expressed a strong desire and need for information concerning typical/atypical development, including developmental sequences, and information on assessment procedures and processes (Gallagher, Malone, Cleghorne, & Helms, 1997). Today's practices in early intervention with infants, toddlers, and young children require a breadth and depth of knowledge, understanding, and competence vis-à-vis play. Few areas of development are as important to early intervention as play. Play serves as both a process for and content of early intervention. Play also has an integral relationship to early social, cognitive, representational/symbolic, and linguistic development. Early interventionists need to be extremely well versed in the development and importance of play in both the basic and applied senses. This article presents a comprehensive and illustrative review of the development of play in infants, toddlers, and young children. In particular, it will address object-based play, from early exploratory manipulations to planned symbolic, multischeme sequences. It will not address play from a social-interactive, sociodramatic/thematic construct per se (cf. Garvey, 1974; Parten, 1932; Patterson & Westby, 1994; Smilansky, 1968).

A strong knowledge and understanding of the development of play is paramount to the goals and objectives of early intervention (Lifter & Bloom, 1998; Rossetti, 2001). Relevant information from important research reports on the development of play are discussed in this article to present readers with enough information, detail, and procedural and historical context to increase their knowledge, understanding, application, analysis/synthesis, and evaluation of the construct of play, thus enhancing early intervention for infants, toddlers, and young children.

PLAY AND ITS DEVELOPMENT

A considerable amount of interest and research has focused on the content and development of play in infants, toddlers, and young children. Although several developmental theorists (Vygotsky, 1966; Werner & Kaplan, 1963) have been interested in play, much of the contemporary work on this subject, and on symbolic play in particular, has been based on the work of Piaget (1951). Piaget offered a developmental account of play wherein he claimed that various ordered stages developed during the first 4 years of life. As such, Piaget's developmental model has served as the basis for a number of contemporary explorations of play. Some replication research, perhaps most notably that of Nicolich (1977), has sought to further describe, objectify, and verify the content and order of Piaget's stages of play. Other research efforts (cf. Watson & Fischer, 1977, 1980) have sought to further examine the individual components of play suggested in Piaget's theory (e.g., the role of self- and other-directed play activities, the role of object substitution/transformation, and the role of combinations/sequences of play schemes).

Piaget's Observations on the Development of Play

Piaget presented his observations and views on the development of play with his classic observational style in his book *Play, Dreams, and Imitation in Childhood* (1951). He envisioned play as “leading from *activity to representation* [italics added], in so far as it evolves from its initial stage of sensory-motor activity to its second stage of symbolic or imaginary play” (p. 8). According to Piaget, children’s play can be classified into one of three main type: *practice play*, *symbolic play*, and *games with rules*. This review will focus on practice play and symbolic play. It will not discuss later forms of play, such as games with rules or sociodramatic/thematic play as such. Nonetheless, as will be seen, aspects of play scheme sequencing and combinations do have features of rules as well as sociodramatic/thematic aspects.

Practice Play. Practice play is characteristic of children’s development from the primary circular reactions of Sensorimotor Stage II (i.e., actions centered on and with their own bodies) through Sensorimotor Stage V and its new means for old ends (chronological age range of approximately 2–10 months; see Table 1).

A Piagetian view characterizes practice play as a process of assimilation and nascent accommodation. The primary circular and secondary circular reactions of Sensorimotor Stages II and III, respectively, are not motivated or influenced by convention, symbols, pretending, or rules. They consist solely of sensorimotor activities out of which the infant gains

the functional “pleasure of being the cause” (Piaget, 1951, p. 91). During Sensorimotor Stage IV—coordination of secondary schemes—and Sensorimotor Stage V—new means for old ends—children develop the ability to combine different sensorimotor action schemes in their practice play. They now try out the same action patterns on different objects and begin to define objects by their use. In addition, children now have the sensorimotor capacity to relate one object to another, albeit in a nonfunctional or nonconventional manner. Toward the latter part of this stage, children begin to engage in ritualistic action patterns in which typical actions with conventional objects are now performed. Piaget was hesitant to label these rituals as symbolic, because in his view children are merely reproducing conventional actions with conventional objects. Young children do not apply these actions to new objects, and they do not display a consciousness of make-believe. Play actions during this level lack application of schemes to atypical objects and evocation of pleasure—both of which are critical elements of symbolic play according to Piaget. It is during the next developmental level that children begin to represent things in their play actions.

Symbolic Play. According to Piagetian theory, Sensorimotor Stage VI—mental operations—is the stage at which children make the transition from sensorimotor schemes to mental operations/representation, which is reflected in the transition from practice play to symbolic play. The development of symbolic play continues throughout much of what has been termed the early preoperational period of cognitive development (i.e., 2–4 years of age).

TABLE 1. Developmental Taxonomy of Play Based on Piaget (1951)

Level	Type	Age range
Practice play		
	Sensorimotor practice play	2–5 months
	Coordination of secondary schemes	5–10 months
	Ritualistic action patterns	10–18 months
Symbolic play		
IA:	Projection of symbolic schemes onto new objects	18 months
IB:	Projection of imitative schemes onto new objects	18 months
IIA:	Simple identification of one object with another	24 months
IIB:	Identification of body with another person or object	24 months
IIIA:	Simple combinations	3–4 years
IIIB:	Compensating combinations	3–4 years
IIIC:	Liquidating combinations	3–4 years
IIID:	Anticipatory combinations	3–4 years

As practice play reflects the sensorimotor period, symbolic play is a counterpart of the preoperational period of cognitive development. In traditional Piagetian theory (Brainerd, 1978; Flavell, 1963), the preoperational period of cognitive development is denoted by its lack of a characteristic defining development. For example, this period is defined by its lack of concrete operations. A key point that needs to be specified, however, is that a more contemporary neo-Piagetian view of development might argue that the defining and positive developmental characteristic of the preoperational period is the development of symbolic functioning as evidenced, for example, through the domain of symbolic play.

Of particular importance to the present discussion are the eight ordinal levels of symbolic play presented by Piaget (1951). The first level is labeled Type IA—projection of symbolic schemes onto new objects. At this level of symbolic play, children apply a familiar action pattern that they have previously performed on themselves onto other people or objects. In other words, children's play departs from the earlier self-directed, ritualistic action patterns and evolves into other-directed actions. Piaget (1951) gave the example of a child who, having played for 2 months at pretending to sleep, now made her teddy bear pretend to sleep. He argued that in projecting the action away from one's self (i.e., the typical agent), the child's behavior is now symbolic and independent from the stimulus characteristics of the environment. Play begins to be decentered and decontextualized, which are critical elements of symbolic play.

The second type, Type IB—projection of imitative schemes—is closely related to Type IA. In Type IB, children begin to imitate the actions of others. Unlike Type IA, these actions typically are not ascribed to the child. They do not form part of his or her typical activities or ritualistic actions. Examples Piaget used include a youngster pretending to pull a needle and thread through a cloth as if sewing and a child pretending to read a newspaper. The age of the children in these examples tended to be about 18 months.

During the next two levels of symbolic play, "complete dissociation of symbolizer from symbolized" is accomplished (Piaget, 1951, p. 123). The first of the two is Type IIA—simple identification of one object with another. The other, Type IIB, is identification of the child's body with the body of another person or thing. In Type IIA symbolic play, children will pretend that one object is another and treat it accordingly. For example, they may pretend to drink from a shell, or they may pretend to brush a doll's hair with a block. In Type IIB symbolic play, youngsters will pretend that they themselves are a car or a dog, and so forth. The symbol used in play is now markedly decontextualized; it is far removed from the stimulus characteristics of the objects and contexts represented. In Piaget's examples of Type IIA and IIB symbolic play, the children's ages were approximately 24 to 30 months.

The next four types of symbolic play elucidated by Piaget involve some level of symbolic combinations on the

child's part, that is, the sequencing of action schemes. They generally involve the reproduction of complete episodes and are not just isolated segments or actions of scripts. Piaget (1951) reported that these types of symbolic play appear sometime around 3 to 4 years of age.

The first of these symbolic combinations/elaborations is Type IIIA—simple combinations. At this level of play, children put together details of scenes that they may have demonstrated in isolation at earlier levels. Children reproduce scenes from reality using real, substitute, and imaginary objects; that is, all previous types of symbolic play may be incorporated into the simple symbolic combination. For example, at this level children will reenact a complete tea party or the entire process of washing and dressing a doll. A key concept of this level is simple combinations. By this, Piaget means that children reproduce scripts as they typically were observed to have happened, rarely embellishing on the episodes as they reproduce them in their simple symbolic combinations. The remaining three types of symbolic combinations are characterized by rich embellishment and elaboration on the child's part.

The first of the remaining three types of symbolic play presented by Piaget (1951) is Type IIIB—compensatory combinations, the next is Type IIIC—liquidating combinations, and the final one is Type IIID—anticipatory combinations. All three are highly similar in that unlike Type IIIA, they all function not to reproduce or copy reality through combining symbols in play but rather to alter a real episode through symbolic combinations and elaborations.

In Type IIIB, children are attempting to correct reality rather than merely reproduce it. Piaget presents the example of J, who was not allowed to play in some water. However, she took a cup and stood by the tub of water pretending to be pouring it out, as if to indicate that she could play in the water.

Piaget's descriptions of Type IIIC are highly similar to Type IIIB in that the child is faced with a difficult or unpleasant situation and the negative aspect is undone in the reproduction. It appears as if the major difference between Types IIIB and IIIC is the time span from reality to its reproduction in the child's symbolic combinations. In all of the examples provided by Piaget, children immediately reproduced the real situation with their compensatory elaborations in Type IIIB. For Type IIIC, the children tended to reenact the difficult or unpleasant situation sometime later. They dissociated the reenactment from its original context; another example of developing decontextualization skills.

Piaget claimed that during symbolic play, Type IIID children demonstrate the ability to anticipate outcomes and adapt their actions. Whereas the previous three levels of symbolic combinations (i.e., IIIA, IIIB, IIIC) were all based on reconstruction of past events, Type IIID symbolic combinations reflect the young child's creative awareness of anticipated outcomes/consequences should a particular action be taken or not. Unlike Types IIIA, B and C, it is not based upon a reconstruction of a past event. Piaget offered the example of

how J demonstrated the way a new acquaintance of hers slipped on a rock, rolled down a mountainside, and injured herself. Such an event had never happened, but according to Piaget, J's intellectual capacity to anticipate events and consequences was revealed in her anticipatory symbolic combinations depicting such a scene.

As noted earlier, Piaget presented a rationale and description of various levels of play and, in particular, symbolic play. His observations on the development of play during infancy and early childhood have been followed by a flurry of related research activity.

Developmental Play Research Following Piaget

Lunzer. Following the work of Piaget closely, Lunzer (1959) investigated the development of "organization" of young children's play. Lunzer construed this development as a process of organization composed of two complementary constructs: *adaptiveness* and *integration*. Children's discriminative use of objects was rated as part of adaptiveness, and Lunzer rated children's play actions on a scale of 1 to 5. Adaptiveness was viewed in two ways: how children demonstrated a regard for the functional properties of objects, and how they could transcend objects' properties and use materials in various imaginative ways. A low adaptiveness score of 1 was assigned when a child used objects without regard for their conventional use (e.g., examined object superficially, banged or dropped object). A mid-range score of 3 was assigned when there was some evidence of children's functional/conventional use of objects but there was no overall coherent play theme (e.g., when a child simply pounded a block with a hammer or merely put a doll in a bed). A high score of 5 was given when a child used materials in a highly insightful, imaginative manner and adapted objects to a context that clearly

transcended their original properties. Lunzer offered the example of making a birthday cake out of sand and using small sticks as candles.

Lunzer (1959) also employed a 5-point scale when rating the degree of integration present in the play behavior of young children. According to Lunzer, the construct of integration dealt with the degree of complexity and cohesiveness present in the sequence of play units or schemes performed by the child. A low score of 1, for example, was given when a play action was performed fairly much in isolation of its preceding or following actions. A high score of 5 was given when a child carried out a well-knit, coherent plot or theme that engulfed full sequences of play schemes.

Working within her construct of play organization, Lunzer (1959) investigated the play performances of a cross-section of children ranging in age from 2 years 6 months to 6 years. She found that young children's overall organization of play increased with age. The mean organization of play score (i.e., adaptation score plus integration score) for the youngest children was 4.71. For children of older ages it was as follows: 3 years 6 months—5.45, 4 years 6 months—6.50, and 6 years—6.96. These data, Lunzer argued, clearly pointed out an age trend in the development of children's organization of play.

Sinclair. In 1970 Sinclair presented data from a longitudinal study of the development of play of a group of infants. Individual children were observed playing with a standard set of objects over the span of 12 months to 26 months in age. The ordinal levels and description of play taken from the Sinclair research are provided in Table 2.

The first type of play action Sinclair described was object exploration activities. This type of activity was already present at the onset of the study (i.e., children were 12 months old) and consisted primarily of the children holding, rubbing, and mouthing objects.

Sinclair next described two types of qualitatively different object manipulations that were not symbolic but through which children were discovering the different properties of objects. She labeled them *assembly activities* and *instrumental activities*. Assembly activities consisted of children combining objects in their play (e.g., putting blocks into a pan, stacking cars). These combinations were not based upon objects' spatial, categorical, or functional properties. At this time, children also engaged in instrumental activities, which were characterized by the use of one object to act on another (e.g., tapping, hitting, pushing one object with another). It should be pointed out that although Piaget (1951) reported the occurrence of very similar play actions at a much earlier age for the children he observed (i.e., 5–10 months), Sinclair's study participants were already 12 months old when she began her observations.

During the age period of 16 months to 19 months, the children studied by Sinclair demonstrated two new types of play activities that revealed an emerging symbolic capacity. In

TABLE 2. Sinclair's (1970) Developmental Sequence of Play

Type/Level	Age range
Object exploration activities	12–16 months
Assembly activities	12–16 months
Instrumental activities	12–16 months
Self-directed play activities	16–19 months
Passive-other-directed play activities	16–19 months
Active-other-directed play activities	19–26 months
Simple object substitution	19–26 months
Representation of absent object	19–26 months
Simple organized activities	+ 26 months

one, the children performed pretend or symbolic play activities that involved their own bodies, which was self-directed play. An example would be a youngster pretending to sleep or pretending to wash with no other agents involved. The other form of symbolic play noted by Sinclair involved passive play partners (e.g., dolls, teddy bears). At this stage, for example, the child dressed or fed a doll. This symbolic play was other-directed, but it involved a passive other—little, if any, animacy was attributed to the doll.

Sinclair noted the appearance of several new types of symbolic play activities during the ages of 19 months to 26 months. These types may be characterized along the following three dimensions: changes in the agent involved in the play, changes in the objects used in the play, and changes in the organization of the play schemes/actions. Changes that involved agents of the play consisted of providing more animacy to the doll play partners. The children's other-directed symbolic play now began to involve active other agents. At this time the children also began to use substitute objects in their symbolic play. Finally, they began to organize their play activities based on a theme or framework. These were relatively simple combinations. For example, the child might perform the same pretend activity on several play partners (e.g., brushes own hair and a doll's hair), or he or she might relate two separate activities (e.g., brush a doll's hair and then have the doll pretend to look in a mirror).

Lezine. Following Sinclair, Lezine (1973) proposed a similar developmental sequence of play that was based on observations of young children's spontaneous play activities with both familiar and unfamiliar objects (see Table 3). The first level of play—manipulative actions—emerged around 9 months to 12 months of age. During this period, children would manipulate objects within their reach. The actions performed at this level were relatively simple, for example, rubbing, holding, shaking, and throwing. Like Piaget, Lezine (1973) suggested that at this early manipulation stage, the pleasure of the sensorimotor activity itself seemed to dominate, as opposed to any relational, conventional, or representational aspects of the play actions.

Lezine observed that at about 12 months to 17 months, the children began to demonstrate conventional use of objects; that is, they would use familiar objects in a functional or conventional manner. For example, they would drink from a cup or use a brush to brush their hair. Lezine noted, however, that such activity was basically nonrestrictive and of short duration. By *nonrestrictive*, Lezine meant that a child's conventional use of objects at this stage was not all that well organized or discriminative. For example, in addition to drinking from a cup, children at this stage may yet bang, throw, or rub the cup; in addition to brushing the hair with a brush, a child may brush a cup, the floor, a doll's face, and so forth. This observation by Lezine illustrates the existence of a degree of *decalage*, or variability in performance, between abutting levels in the development of play.

TABLE 3. Lezine's (1973) Proposed Developmental Sequence of Symbolic Play

Type/Level	Age range
Manipulative actions	9–12 months
Conventional use of objects	12–17 months
Restricted conventional use of objects	18 months
Passive-other-directed play	18–24 months
Active-other-directed play	18–24 months
Simple object substitution symbolic play	24–30 months
Representation of absent object in play	24–30 months

During Lezine's next level of play development, children's conventional use of familiar objects became restricted and more precise. This new level of restricted conventional use of objects appeared at approximately 18 months of age. Now, for example, a youngster would use a brush only to brush his or her hair. This level of play described by Lezine is quite similar to what Piaget (1951) described as ritualistic action patterns and Sinclair (1970) referred to as self-directed play activities.

Lezine next described two qualitatively distinct symbolic play activities that occurred from 18 months to 24 months and involved changes in the agent component of symbolic play. In the first, the child would be playing with a set of familiar objects and would act on the objects, treating them as passive play partners. For example, he or she would feed, hug, and kiss teddy bears and dolls. During the next level of symbolic play, the child gave animacy to doll play partners, incorporating them into the symbolic play routine as more active play partners. The child caused the dolls to kiss another, to brush another's hair, to actively sit up, and so forth.

Substitution of one object for another and representation of an absent object were Lezine's final levels of symbolic play and developed at approximately 24 months to 30 months of age. At these levels, young children would either substitute one object for another or represent an entirely absent object, for example, pretending that a brush is a telephone or pretending to be holding and speaking into a totally imaginary telephone. Although Lezine did not discuss combinatorial aspects of symbolic play, as did Piaget (1951) and Sinclair (1970), she alluded to their development when she noted that with development, children's play schemes got longer. One reason for the increased length of play schemes is the stringing together of play acts in combinations.

Lowe. Most of the early investigators of symbolic play, as well as Piaget, made the observation that one critically important component of children's early play is that of the agent involved in the play itself. For example, Piaget (1951) re-

ported that at approximately 18 months of age, young children displayed projection of imitative schemes onto new objects and thus pretended to have a teddy bear sleep as opposed to performing the ritualistic action themselves. Both Sinclair (1970) and Lezine (1973) reported on the emergence of self-directed and other-directed play action schemes performed by young children. The development of such a component of symbolic play—change-in-agent—was the focus of a cross-sectional study across ages 12 months to 36 months conducted by Lowe (1975).

Lowe observed children's spontaneous play in the presence of their mothers with four sets of miniature objects. She reported that the most striking developmental trend concerned the manner in which the children incorporated themselves and others into their play schemes. The following ordinal levels of the development of symbolic play have been extracted from the work of Lowe (1975):

- self-directed play actions: 12 to 18 months
- passive–other play actions: 18 to 24 months
- active–other play actions: 30 to 36 months

Between the ages of 12 months and 18 months, the children were demonstrating conventional/functional use of objects in relationship to their own bodies, which is self-directed play. At this point, they did not incorporate dolls as partners in their play activities. For example, they related a spoon to a cup or saucer and pretended to feed themselves, and they brushed their own hair with a toy brush. Very few of the children in Lowe's study pretended to feed or brush another person or a doll play partner, however.

Lowe noted that much of the children's play during ages 18 months to 24 months was functional/conventional play dictated by the typical social or functional/conventional use of particular objects. Very little substituting of one object for another or pretending to represent an altogether absent object occurred. The next major development in play behavior noted during this time period was the children's gradual incorporation of doll play partners into their own play activities. It was during these months that the children pretended

to feed a doll or brush its hair. It is important to note, however, that the children tended to treat these doll play partners as passive recipients of their play manipulation.

Development of active-other-directed play occurred between 30 months and 36 months of age, according to Lowe. She observed an increase in children's incorporation of an active doll partner into their play schemes, as well as an elaboration in their sequence of play acts. During these months, the children were observed to attribute more animacy to their doll partners. For example, a child would place a toy figurine in the driver seat of a toy vehicle and pretend that it was driving the vehicle or would have a doll actively sit at a toy table and pretend to eat.

Rosenblatt. In addition to the concept of a change-in-agent component of symbolic play, the early research of Piaget (1951), Sinclair (1970), and Lezine (1973) formed the basis for the substitution-object component of symbolic play (cf. Piaget's type IIA). The development of children's play with objects, from indiscriminate object exploration to the highly symbolic representational use of objects, was further studied by Rosenblatt (1975, 1977) in a longitudinal project covering the ages of 9 months to 24 months. She made monthly observations of play behaviors as the children played with a set of small toys. The children's responses to these toys were classified into six categories (see Table 4).

In the sensorimotor–single toy category, the child performed simple sensorimotor actions (e.g., touching, holding, banging) on single objects. The next category—sensorimotor–combinations—consisted of simple nonconventional coordination of objects in play (e.g., stacking toys, hitting toys together). In the representational–single toy category, children used objects in a conventional manner, as if they were the real objects (e.g., talking on a toy telephone, brushing one's own hair, eating with a spoon). The representational–combinations category was defined by Rosenblatt as the coordination of two toys in play as if they were the real objects (e.g., brushing a doll's hair, feeding a teddy bear). In the representational–imaginary object category, the children would pretend to represent an absent object in their play (e.g., putting an imaginary hat on a doll). The final category—double knowledge—was the children's use of one realistic object for another (e.g., pushing a block as a car).

Like the work of Piaget (1951), Sinclair (1970), and Lezine (1973), the data from Rosenblatt's (1975, 1977) research suggested a regular, orderly progression from undifferentiated sensorimotor action patterns to the conventional use of objects to more symbolic uses of objects in play. Rosenblatt reported that at 9 months of age, more than 90% of the children's play behavior was classified as sensorimotor–single toy. At 12 months of age, approximately 80% of the children's play was still sensorimotor–single toy. This early type of play dropped off to a low of less than 20% of play activities by 18 months of age. By 24 months of age, the children observed by Rosenblatt were more likely than at earlier ages to demon-

TABLE 4. Rosenblatt's (1975, 1977) Developmental Taxonomy of Play

Type/Level	Age range
Sensorimotor-single toy	9–12 months
Sensorimotor-combinations	12–15 months
Representational-single toy	15 months
Representational-combinations	24 months
Representational-imaginary object	+ 24 months
Double-knowledge	+ 24 months

strate sensorimotor–combinations play behavior. Rosenblatt also reported that by 12 months of age children began to show some, albeit infrequent, use of representational–single toy play. (As noted previously, this type of play involved the conventional use of objects, for example, drinking from a cup. In addition, the vast majority, that is, 80%, of play activities at 12 months of age were still classified as sensorimotor–single toy.)

By 15 months of age, the children in Rosenblatt's study began to demonstrate considerably more representational–single toy play (i.e., conventional use of objects). This type of play activity continued to increase, from a level of less than 10% at 12 months to approximately 20% at 15 months of age and more than 50% at 18 months and 24 months of age (Rosenblatt, 1975, 1977).

Of the various types of play observed by Rosenblatt over the age span of 9 months to 24 months, the two most frequent types were sensorimotor–single toy and representational–single toy. These two types actually demonstrated an inverse relationship during the course of development; sensorimotor–single toy play was predominant up until 15 months, and representational–single toy play became predominant after 15 months.

Sensorimotor–combinations (i.e., the simple nonfunctional coordination of objects in play) were observed to be at a high of 10% of all play activities at 12 months of age. This form of early play was reported to be consistently low. Representational–combinations (i.e., the functional coordination of two toys in play as if they were the real objects) were reported to consistently account for less than 10% of the play from 9 months to 18 months. At 24 months, there was a considerable increase in this type of play, to a level of approximately 30% of all play activities.

The highest two levels of play activity in Rosenblatt's classification scheme—representational–imaginary object and double knowledge—did not occur in the children in Rosenblatt's study. Rosenblatt's research provides an interesting picture not only of the ordinal emergence of different levels of play but also of the prevalence or frequency of different forms of play at different ages.

Uzgiris and Hunt. As indicated in the introductory comments to this article, many investigators have sought to empirically replicate and validate the developmental levels of play proposed by Piaget. In 1975, Uzgiris and Hunt presented the results of their major undertaking—developing ordinal scales for the assessment of infant behavior based on a Piagetian model of cognition. One of these scales concerned assessing the development of schemes for relating to objects. This scale assesses infants' actions on objects ranging from early sensorimotor action schemes to the beginnings of functional play and labeling of objects. The examiner presents a series of objects to the children for their play manipulation and makes notes regarding how the youngsters act on the various objects.

In an early phase of the development of the scales, Uzgiris and Hunt examined infants' responses vis-à-vis the development of schemes for relating to objects. These children were examined repeatedly over a 12-month period. It is possible to glean from this study information that relates to the developmental sequence of the acquisition of functional/conventional play, that is, the typical functional/conventional use of objects. The following developmental framework characterizes the Uzgiris and Hunt findings:

- sensorimotor action schemes: 2 to 5 months
- exploratory action schemes: 5 to 9 months
- conventional–social action schemes: 10 to 18 months

Initially, the children displayed sensorimotor action patterns that incorporated mouthing, hitting, shaking, and so forth, of objects. This early level was characterized by the infants applying what sensorimotor action schemes they had available, regardless of the stimulus characteristic of the objects—a process of assimilation. This was the dominant scheme children demonstrated for relating to objects from approximately 2 months to 5 months of age.

The next level spanned the age range of approximately 5 months to 9 months and was distinguished by exploratory action schemes performed by the children. Their action patterns with objects now seemed to reflect nascent consideration of the attributes of the objects—a process of accommodation. At this level, the children used more visual inspection and examination of objects and applied more complex motor schemes, such as sliding objects on surfaces and putting objects into and on top of one another. The shift of attention from practice, or the mere exercising of already existing sensorimotor schemes, to the investigation and exploration of object properties typified this second level of play noted by Uzgiris and Hunt.

The third and final stage in the development of schemes for relating to objects drawn from the Uzgiris and Hunt research may be termed *conventional–social action play schemes*. These were noted to begin to appear at approximately 12 months to 18 months of age. The major aspect of this level was the demonstration of functional, conventional, or typical use of objects, more so than any representational or symbolic functioning (cf. Casby, 1991a, 1991b).

Fenson, Kagan, Kearsley, and Zelazo. Thus far, several accounts of children's earliest play performances have noted that (a) they are concentrated on the sensorimotor exploration and manipulation of single objects in a generally nonfunctional, assimilative fashion (Piaget, 1951; Lezine, 1973; Rosenblatt, 1975, 1977; Sinclair, 1970; Uzgiris & Hunt, 1975), and (b) ensuing developments include the relating of one object to another, followed later by the demonstration of functional or conventional social use of objects. In a cross-sectional study of the development of play of children rang-

ing in age from 7 months to 20 months, Fenson, Kagan, Kearsley, and Zelazo (1976) reported data that supported the developmental sequence of relational play leading up to symbolic-like acts. Fenson et al.'s procedures involved observing children's spontaneous play with a toy tea set, dolls, blocks, and several nonsense objects.

Fenson et al. (1976) described two types of relational play. The first was termed *nonaccommodative relational play*, which involved the association of two objects in an other than clearly appropriate or conventional manner (e.g., touching a spoon against a pot, touching a saucer with a jar lid). Fenson et al.'s data suggested that young children did not begin to demonstrate relational play until sometime around the age of 9 months. Prior to this time, the object action schemes displayed by the children were single-object and nondiscriminative. The second type of relational play described by Fenson et al. was labeled *accommodative relational play*. It involved acts that demonstrated knowledge of appropriate object relationships (e.g., placing a spoon in a cup, placing a cup on a saucer).

With regard to the occurrence of relational play, nonaccommodative relational play was first to appear. By 13 months of age, the children demonstrated accommodative relational play. Symbolic-like acts—acts in which the child was the agent (e.g., self-directed) for a pretend activity with realistic objects (e.g., pretending to drink tea from a toy cup, pouring from a teapot)—were noted to be present by 20 months of age. The three levels Fenson et al. used thus were as follows:

- nonaccommodative relational play: 9 to 13 months
- accommodative relational play: 13 to 18 months
- symbolic-like acts: 20 months

Zelazo and Kearsley. Zelazo and Kearsley (1977) investigated young children's development of early play using three mutually exclusive broad categories. Their categories of play and definitions were as follows:

- stereotypical play: 9 to 11 months
- relational play: 11 to 13 months
- functional play: 15 months

Stereotypical responding was described as the simple manipulation of an object to include mouthing, fingering, waving, banging, and so forth. Zelazo and Kearsley described relational play as the simultaneous association of two or more objects in a nonfunctional manner and functional play as using of objects in a conventional or functional manner.

Zelazo and Kearsley recorded the occurrence of each type of play by using a 10-s time-sampling tactic over a 15-min session of free play. They observed boys and girls at each of the following age levels: 9, 11, 13, and 15 months. Procedures consisted of having a mother and her child be in the

same room with several toys (i.e., telephone, tea set, doll and doll clothing, blocks, truck) arranged in a semicircle near the child. The mother was asked to remain relatively inactive during the observation period. Zelazo and Kearsley found that stereotypical play was replaced by relational play at approximately 13 months. Stereotypical play was noted to be at an apex at 10 months, falling off sharply thereafter. Relational play was observed to occur with the greatest frequency by 13 months. Functional play became the primary activity by 15 months of age.

Watson and Fischer. The reader will recall that several of the early observational accounts of symbolic play described an agent component (cf. Lezine, 1973; Lowe, 1975; Sinclair, 1970). The development of children's use of agents in their symbolic play was investigated further in a series of more controlled experiments conducted by Watson and Fischer (1977, 1980). In this research, the authors defined an *agent* as the entity integrally involved in the action within the play activity. Watson and Fischer hypothesized that infants would employ agents in their symbolic play in the following developmental sequence:

- Self-as-agent: 14 months
- Passive-other-as-agent: 19 months—using another play partner (e.g., a doll)
- Substitute-passive-other-as-agent: 19 to 24 months—for example, a wooden block
- Active-other-as-agent: 19 to 24 months—for example, a doll

Self-as-agent consisted of children performing self-directed play activities; for example, they would pretend to drink from a cup or sleep on a pillow. For passive-other-agent play, the children would need to perform other-directed activities. The other in this instance was a play partner (i.e., a doll). This is in contrast to passive-substitute-agent play, wherein the children would use a nonsense object (i.e., a wooden block) to serve as the agent in the play activities. In both types, however, the children ascribed little or no animacy to the agents. In other words, the agents of the play remained passive, with the child merely acting upon them. For the active-other-agent category, the children attributed animacy to the doll agents. They demonstrated that the doll was an active agent within their play by treating it as a more animate character, for example, having a doll "walk," "talk," "drive," "eat," or "pick things up."

In their first study, Watson, and Fischer (1977) obtained results from 36 infants (12 each at 14, 19, and 24 months of age) that supported their hypothesized developmental sequence of agent use in symbolic play. The youngest age group demonstrated more self-as-agent play and less passive-other, passive-substitute, and active-other agent use. The 19-month-olds showed an increased use of passive-other-agent, while the 24-month-old children showed a decrease in self-as-agent

and passive-other and an increase in passive-substitute and active-other-agent use. The results of Watson and Fischer's 1980 study were consistent with their earlier findings.

The procedures Watson and Fischer (1977, 1980) used for eliciting symbolic play performances from the children deserve further mention here. To assess the level of agent use demonstrated by the children, Watson and Fischer employed a modeling and imitation technique. They used this procedure as opposed to observing children's spontaneous pretend play activities for several reasons. First, they wanted to present the children with controlled opportunities to display agent-use symbolic play at each of the hypothesized developmental steps. They then could assess which steps in the sequence the children demonstrated. Second, they wanted the children to have an opportunity to demonstrate their highest level of agent use in play. They hypothesized that a modeling and imitation technique would present more opportunities and facilitate the children's pretending at their highest level without going beyond those levels of which the children truly were capable. Watson and Fischer thus attempted to identify the child's zone of proximal development (cf. Vygotsky, 1978) as regards the agent aspect of symbolic play.

Ungerer, Zelazo, Kearsley, and Kurowski. Like Rosenblatt (1975, 1977), developmental changes in the way young children represent objects in their play were the focus of research conducted by Ungerer, Zelazo, Kearsley, and Kurowski (1981a). In this study, each child, accompanied by his or her primary caregiver, was observed in a playroom with a specific set of toys and objects. At first the child was allowed a period of free play with the objects; neither the experimenter nor caregiver interacted with the child during this period. This was followed by a period of time in which the experimenter interacted with the child and modeled four different play actions with the toys. Two of the modeled acts simulated symbolic play (e.g., biting a block as if it were food). Following this, the youngsters were permitted some additional individual free-play time with the objects. All of the children's play behaviors were recorded by an observer using a 10-s time-sampling procedure. Each observed instance of play was classified according to the following scheme:

- high physical support with action: 18 months
- high physical support without action: 22 months
- low physical support with action: 34 months

In high physical support with action, the child substituted a perceptually similar object for the real one. This was accompanied by a conventional action associated with the object. An example of such an occurrence would be a child picking up a thin, rectangular block and bringing it to his or her ear like a telephone receiver.

The high physical support without action category was the same as the first category except there was no accompa-

nying action. Rather than performing an action with a highly similar object, the child would name it. For example, the child would pick up a lean, cylindrical block and label it a "carrot."

In the low physical support with action category, the child substituted a perceptually dissimilar object for the real one. The substituted object was accompanied by an action functionally appropriate for the real object. An example would be children combing their hair with a baby bottle.

Ungerer et al. (1981a) reported that young children's ability to represent an object with another develops during the age span of 18 months to 34 months of age. In particular, young children were more likely to substitute one object for another in their play if the substitute object was physically similar to the original object. This type of object substitution was also more likely to be accompanied by a functional action. At 18 months of age, 50% of the children observed demonstrated symbolic play that incorporated objects through high physical support with an action; at 26 and 34 months of age, 88% of the youngsters demonstrated this type of symbolic play. Ungerer et al. (1981a) pointed out that children tended to employ objects with low physical similarity less often within their symbolic play. At 18 months of age, the play category of low physical support with action was observed in only 6% of the children. At 26 months of age, this had increased to 25%, and at 34 months of age, 44% of the children observed demonstrated the low physical support with action category of play.

Ungerer et al.'s (1981a) data support the position that young children's substitute-object symbolic play is initially dependent upon perceptual similarities between the signifier and the signified. As children's symbolic abilities develop, they are better able to decontextualize their symbols and require less and less similarity between the signifier and that which is being represented. This has been further supported and substantiated in the research of Elder and Pederson (1978), Casby and Della Corte (1987), and Casby and Ruder (1983).

Ungerer, Zelazo, Kearsley, and O'Leary. Ungerer et al. (1981b) proposed the following developmental taxonomy of play in a cross-sectional investigation of the development of early play abilities in children:

- stereotypical play: 9 months
- relational play: 12 months
- functional play: 12 to 24 months
- symbolic play: 22 to 34 months

Similar to other research on play, Ungerer et al. (1981b) used a time-sampling procedure to observe children in unstructured free play. *Stereotypical play* was defined as mouthing, fingering, waving, and/or banging objects. In *relational play*, the child associated two or more objects in an as yet unconventional manner, for example, pushing one block into another, placing a small can into a cup. The child's use of objects in a functional/conventional and typical way was termed

functional play. It also included relational functional play (i.e., the association of two or more objects in an appropriate manner), for example, pretending to talk on a play telephone or placing a doll on a bed.

Three different types of symbolic play were noted by Ungerer et al. (1981b). In the first type, a child would substitute one object for another (e.g., using a wooden block as an airplane). In the second type, a child would give animacy to a toy (e.g., pretending that a doll was walking). The third type of symbolic play Ungerer et al. noted was termed *imaginary*. In this type of play, a child would pretend to represent an object that was not present. An example would be a youngster pretending to be pouring from an imaginary bottle into a cup.

Ungerer et al. (1981b) reported that at 9 months of age, the children spent 85% of their play activity in stereotypical activities and 14% in relating objects together in a nonfunctional manner. As also reported by others (e.g., Zelazo & Kearsley, 1977), stereotypical play tended to decrease sharply between the ages of approximately 9 months and 12 months, remaining at a low level thereafter. For example, at 18 months of age, only 29% of the children's play activity was spent in stereotypical play, and it was reduced to 15% at 22 months and 9% at 34 months. This early occurring decline of stereotypical play was accompanied by a trend in which nonfunctional relational play increased slightly in the early months and then dropped off in the later months. For example, at 9 months of age, 14% of the children's play activity was spent in nonfunctional relational play. This increased to a level of approximately 39% at 12 months and then decreased to 16% at 18 months, rose slightly to 19% at 22 months, and climbed to 22% at 34 months.

Ungerer et al.'s (1981b) findings regarding the development of functional and symbolic play are of particular importance to the present review. It was found that the fre-

quency of functional play was at an extremely low level at 9 months of age, but it became more frequent with an increase in age. This increase in functional play continued throughout the children's second year of life and remained stable thereafter. Symbolic play acts were noted to emerge between the ages of 18 months and 24 months. During this period, 84% of the children demonstrated some type of symbolic play. Symbolic play continued to increase, and as Ungerer et al. (1981b) noted, it was universally present by 34 months. No data were reported concerning the appearance and development of the three different types of symbolic play, which was part of Ungerer et al.'s (1981b) original classification scheme.

McCune-Nicolich. Perhaps one of the better known developmentally based play taxonomies is the one McCune-Nicolich and her colleagues (Nicolich, 1977; McCune-Nicolich, 1981; McCune-Nicolich & Raph, 1978) presented. The McCune-Nicolich schema (Nicolich, 1977) for the development of play is based on Piaget's (1951) exposition. McCune-Nicolich proposed a framework that consists of two overall stages of play development: the sensorimotor period and the symbolic period. Each of these two periods further consists of various substages that total to five ordinal levels of symbolic play. The individual levels and their labels are presented in Table 5.

In general, the first two levels of play—Level 1, presymbolic, and Level 2, auto-symbolic—are differing levels of conventional play with objects. During these two early levels, children are learning the typical social-conventional functions of objects. McCune-Nicolich viewed presymbolic schemes as similar to what Piagetians referred to as *recognitory gestures* or *recognitory assimilation* (cf. Flavell, 1963; Piaget, 1951). It is a motor act that is very object specific and, as performed by children, demonstrative of their nascent knowledge of conventional use of objects. The auto-symbolic level is basically a self-directed level of conventional play in which children perform typical actions with real objects.

Level 3—single-scheme symbolic games—marks the beginning of what Nicolich (1977) referred to as the *symbolic period*. Children will now incorporate another partner into their play routines (e.g., brush a doll's hair), or pretend to perform actions typically done by others (e.g., pretend to drive or feed a baby). At Level 4—combinational symbolic games—children begin to demonstrate the ability of combining two or more play schemes in a sequence. As presented in Table 5, there are two types of combinational symbolic games: single-scheme combinations (Level 4.1), in which children perform the same action on several other recipients (e.g., comb their own hair and then their mother's hair), and multischeme combinations (Level 4.2), in which children perform several play schemes that are apparently temporarily or logically ordered (e.g., holds phone, dials, and speaks). This level of play is reported typically to occur midway in the second year of life.

TABLE 5. Play Taxonomy of McCune-Nicolich

Level/Type	Age range
Level 1 Presymbolic schemes	14 months
Level 2 Auto-symbolic schemes	14 months
Level 3 Single-scheme symbolic games	16 months
Level 4 Combinational symbolic games	18 months
4.1 Single-scheme combinations	
4.2 Multischeme combinations	
Level 5 Planned symbolic games	20–24 months
5.1 Identification of one object with another	
5.2 Identification with some other object or person	
5.3 Combinations with planned elements	

The fifth and final level of play described by Nicolich (1977) was called *planned symbolic games*. This type of play occurs late in the second year of life. Basically, Level 5 is composed of three qualitative types of symbolic play activities, all characterized by planned action. Nicolich (1977) and McCune-Nicolich and Carroll (1981) stressed that at this level of play, children's actions are less the result of the stimulus properties of objects and more the result of the children's planned invention (McCune-Nicolich & Carroll, 1981). First is Level 5.1, the child's identification of one object with another (e.g., pretending that a stick is a toothbrush). Second is Level 5.2, the symbolic identification of the child's body with some other person or object. At this level, children might carry out the activities of an adult, or they might substitute one of their body parts for an absent object (e.g., pretend that their finger is a toothbrush). The third and final type of symbolic play is Level 5.3—combinations with planned elements. These are described as planned play activities that tend toward acting out realistic scenes. The concept of preplanning on the child's part is critical to this level of the McCune-Nicolich taxonomy. Nicolich (1977) offered the following as evidence of preplanning on the child's part: verbal announcement, a search for needed objects, and speed of child's movement toward desired objects.

The McCune-Nicolich taxonomy was initially examined in a 1-year longitudinal study of five girls ranging in age from 14 months to 19 months at the beginning of the study (Nicolich, 1977). The children's play performance with a set of standard toys was videotaped monthly over a year. Mothers were present with their children, but they did not encourage or model any play activities. The results of the study demonstrated that the children proceeded through the play levels in the developmental order hypothesized. All but one of the children already demonstrated Level 3 single-scheme symbolic games at the beginning of the study, which indicated that children are capable of demonstrating other-directed symbolic play as early as 14 months of age. The children progressed through the remaining play levels within the year's time.

CONCLUSION

The preceding has been an illustrative and comprehensive review of notable research on the development of play of typically developing children. Investigators proposed extensive taxonomies of the development of play, ranging from the first assimilative interaction an infant has with objects to young children's organized pretend play scenes (Nicolich, 1977; Piaget, 1951). Some researchers limited their investigations to very early specific developmental spans (Uzgiris & Hunt, 1975). Others covered larger developmental spans ranging, for example, from the presence of sensorimotor exploratory acts through planned symbolic play acts (Nicolich, 1977; Ungerer et al., 1981b). Still other researchers focused on particu-

lar components of symbolic play (Lowe, 1975; Ungerer et al., 1981a; Watson & Fischer, 1977, 1980).

The review presented here has demonstrated that the quality of children's play changes dramatically as they approach their second year of life and through their third. Infants' play schemes are initially determined by sensorimotor action schemes such as mouthing and banging. Gradually, their play actions shift to more controlled and coordinated actions on objects. This gives way to behaviors wherein toddlers begin to use objects more functionally in accordance with their typical conventional purposes and to demonstrate play behaviors that appear to mimic real-life activities. During the second year of life, toddlers and young children demonstrate a developing symbolic functioning in their play. This is evidenced in their modifications of agents as well as through their use of substitute objects. It has been suggested that these are the products of decentration and decontextualization, respectively (Casby, 1991a, 1991b). Play actions become increasingly more coordinated and cohesive as the children approach their third birthday. This coordination and cohesion is reflected in the development of sequential combinations of symbolic play schemes.

Information on the content, development, and process of observation of play in infants, toddlers, and young children is of significant value to professionals involved in early intervention. Such information can serve as the basis for play assessment and intervention efforts. To that end, Casby (this issue) presents a descriptive, criterion-referenced model for the assessment of play based upon analysis/synthesis, integration, and evaluation of numerous pieces of research.

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REFERENCES

- Brainerd, C. (1978). *Piaget's theory of intelligence*. Englewood Cliffs, NJ: Prentice Hall.
- Casby, M. W. (1991a). Symbolic play: I. A developmental framework. *Infant-Toddler Intervention, 1*, 219-231.
- Casby, M. W. (1991b). Symbolic play: II. A unified model of symbolic play. *Infant-Toddler Intervention, 1*, 233-243.
- Casby, M. W., & Della Corte, M. (1987). Symbolic play performance and early language development. *Journal of Psycholinguistic Research, 16*, 31-42.
- Casby, M. W., & Ruder, K. (1983). Symbolic play and early language development in normal and mentally retarded children. *Journal of Speech and Hearing Research, 26*, 404-411.
- Elder, J. L., & Pederson, D. R., (1978). Preschool children's use of objects in symbolic play. *Child Development, 49*, 500-504.

- Fenson, L., Kagan, J., Kearsley, R. B., & Zelazo, P. R. (1976). The developmental progression of manipulative play in the first two years. *Child Development, 47*, 232–235.
- Flavell, J. (1963). *The developmental psychology of Jean Piaget*. New York: D. Van Nostrand Press.
- Gallagher, P., Malone, D., Cleghorne, M., & Helms, K. (1997). Perceived in-service training needs for early intervention personnel. *Exceptional Children, 64*, 19–30.
- Garvey, C. (1974). Some properties of social play. *Merrill-Palmer Quarterly, 20*, 163–180.
- Lezine, I. (1973). The transition from sensorimotor to earliest symbolic function in early development. *Research Publication of the Association for Research in Nervous and Mental Disease, 51*, 221–232.
- Lifter, K., & Bloom, L. (1998). Intentionality and the role of play in the transition to language. In A. Wetherby, S. Warren, & J. Reichle (Eds.), *Transitions in prelinguistic communication* (Vol. 7, pp. 161–196). Baltimore: Brookes.
- Lowe, M. (1975). Trends in the development of representational play in infants from one to three years—An observational study. *Journal of Child Psychology and Psychiatry, 16*, 33–47.
- Lunzer, E. (1959). Intellectual development in the play of young children. *Educational Review, 11*, 205–217.
- McCune-Nicolich, L. (1981). Toward symbolic functioning: Structure of early pretend games and potential parallels with language. *Child Development, 52*, 785–797.
- McCune-Nicolich, L., & Carroll, S. (1981). Development of symbolic play: Implications for the language specialist. *Topics in Language Disorders, 2*(1), 1–15.
- McCune-Nicolich, L., & Raph, J. (1978). Imitative language and symbolic maturity in the single word period. *Journal of Psycholinguistic Research, 7*, 401–417.
- Nicolich, L. (1977). Beyond sensorimotor intelligence: Assessment of symbolic maturity through analysis of pretend play. *Merrill-Palmer Quarterly, 23*, 89–99.
- Parten, M. (1932). Social participation among preschool children. *Journal of Abnormal and Social Psychology, 27*, 243–269.
- Patterson, J. L., & Westby, C. (1994). The development of play. In W. Haynes & B. Shulman (Eds.), *Communication development: Foundations, processes, and clinical applications* (pp. 135–162). Englewood Cliffs, NJ: Prentice Hall.
- Piaget, J. (1951). *Play, dreams, and imitation in childhood*. London: Heinemann.
- Rosenblatt, D. (1975, June). *Learning how to mean: The development of representation in play and language*. Paper presented at the Biology of Play Conference, Farnham, Surrey, England.
- Rosenblatt, D. (1977). Developmental trends in infant play. In B. Tizard & D. Harvey (Eds.), *The biology of play* (pp. 33–44). Philadelphia: Lippincott.
- Rossetti, L. (2001). *Communication intervention: Birth to three* (2nd ed.). San Diego, CA: Singular.
- Sinclair, H. (1970). The transition from sensorimotor behavior to symbolic activity. *Interchange, 1*, 119–125.
- Smilansky, S. (1968). *The effects of sociodramatic play on disadvantaged preschool children*. New York: Wiley.
- Ungerer, J., Zelazo, P. R., Kearsley, R. B., & Kurowski, K. (1981a). Play as a cognitive assessment tool. *Proceedings of the UAP-USC Ninth annual International Interdisciplinary Conference on Piagetian Theory and the Helping Professions*.
- Ungerer, J., Zelazo, P. R., Kearsley, R. B., & O'Leary, K. (1981b). Developmental changes in the representation of objects in symbolic play from 18 to 34 months of age. *Child Development, 52*, 186–195.
- Uzgiris, I., & Hunt, J. McV. (1975). *Assessment in infancy: Ordinal scales of psychological development*. Urbana: University of Illinois Press.
- Vygotsky, L. (1966). Play and its role in the mental development of the child. *Soviet Psychology, 12*, 62–76.
- Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Watson, M. W., & Fischer, K. W. (1977). A developmental sequence of agent use in late infancy. *Child Development, 48*, 828–836.
- Watson, M. W., & Fischer, K. W. (1980). Development of social roles in elicited and spontaneous behavior during the preschool years. *Developmental Psychology, 16*, 483–494.
- Werner, H., & Kaplan, B. (1963). *Symbolic formation: An organismic-developmental approach to language and the expression of thought*. New York: Wiley.
- Zelazo, P. R., & Kearsley, R. B. (1977, March). *Functional play: Evidence of cognitive metamorphosis in the year old infant*. Paper presented at the biennial meeting of the Society for Research in Child Development, New Orleans.