

Developmental Progression in Play Behavior of Children between Nine and Thirty Months. I: Spontaneous Play and Imitation

Remo H. Largo Judy A. Howard

Introduction

Observations of play by young children have attracted the attention of researchers interested in early cognitive development. Piaget's description of cognitive development (Piaget 1952) led to a number of studies which shed some light on cognitive processes in children between one and three years of age. The functionally appropriate use of objects, occurring between 11 and 15 months, announces the onset of the capacity to generate ideas for specific situations (Fenson *et al.* 1976, Zelazo and Kearsley 1977). The emergence of 'make-believe' or symbolic play between 18 and 24 months indicates the development of mental images and thus the transition from the sensorimotor to the symbolic period (Sinclair 1970, Inhelder *et al.* 1972, Lezine 1973). The onset of language is seen as another expression of the 'semiotic' function reflected in symbolic play (Lunzer 1959; Hulme and Lunzer 1966; Sinclair 1970, 1971; Rosenblatt 1977).

Previous studies have tended to be selective in their observations of play behavior, focusing in particular on symbolic play. One purpose of this present study was to describe systematically the developmental progression of play

behavior which can be observed in children between nine and 30 months of age.

According to Piaget (1967) and McCall *et al.* (1977), imitation or observational learning plays a major rôle in early cognitive development. Therefore the relationship between spontaneous play reflecting developing cognitive processes and imitation is of considerable interest. The second aim of this study was to reveal some of the cognitive and motivational aspects of immediate imitation by comparing spontaneous and imitative play behavior.

Since we believe that play studies of this kind can be of practical significance, an effort was made to develop a specific play situation and a scoring system which can be used for clinical and teaching purposes.

Material and Method

The testing was done in the laboratory at the ages of 9, 12, 15, 18, 21, 24, 27 and 30 months, within two weeks of the exact age. 16 children were seen in each of the eight age-groups. The number of boys and girls within each age-group was about equal.

A total of 85 children were seen, 42 of whom were tested once and 43 twice within an interval of six months, making a total of 128 observations. The children

Correspondence to R. H. Largo, M.D., Kinderspital Zurich, Growth and Development Centre, Steinwiesstrasse 75, CH-8032 Zurich, Switzerland.

Play Observation**Play Situation*

A pilot study revealed that developmental changes were more obvious during structured play than during free play. When a standardized sequence of toys were presented the child's individual play style and temperament were somewhat restricted. However, there was an increased incidence of play and decreased variability in play behavior during structured play compared with free play, so the standardized sequence became the preferred mode of toy presentation.

During the play session the child was seated at a table, either on a chair or on his mother's lap. The mother was always present, but was asked not to interfere with the child's play and not to give him clues about the toys. Following a warm-up period in which the child was given toys different from those in the test series, a standardized sequence of 12 sets of toys was presented to him (Table II). The toys were given to the child without mentioning their names or commenting on their function. The observed play behaviour was scored continuously (see below). When the child lost interest in one set of toys (e.g. in spoon, plate and cup) or became destructive or repetitive in his play, the examiner requested specific play behavior from the child (e.g. 'show me how you feed the doll') and recorded the child's response (for details, see Largo and Howard 1979). Then the examiner demonstrated specific play behavior (e.g. feeding the doll with a spoon) and asked the child to imitate it. The child's response was noted and the next set of toys introduced.

Scoring System

The child's play was scored throughout the play session, as well as from video-

*The manual and scoring sheets are obtainable from the authors.

TABLE II
Sequence of toy presentation

<i>Part I:</i>	(1) Doll
	(2) + Spoon, plate and cup
	(3) + Bottle and napkin (remove spoon, plate and cup)
	(4) + Brush, comb and mirror (remove bottle and napkin)
	(5) + Telephone (remove brush, comb and mirror)
	(6) + Bed, pillow and blanket (remove telephone)
	Remove bed, pillow and blanket and doll
<i>Part II:</i>	(1) Table and chairs
	(2) + Plates and cups
	(3) + Spoons
	(4) + 2 Dolls
	(5) + Teapot and milk-carton
	(6) + Stove and pans
	Dog

tapes. Play behavior, based on the pilot experiments and a review of the literature, was defined as follows:—

(a) Play behavior with exploratory characteristics:

- *mouthing*: the object is brought to the mouth and explored with lips and tongue.
- *manipulatory play*: the object is banded, thrown and waved.
- *visual exploration*: the object is visually examined, fingered and turned.

(b) Play behavior with functional characteristics:

- *functional play*: the object is used in a functionally appropriate way and the play is restricted to the child's own body, e.g. the child feeds himself with a spoon.
- *representational play 1*: the object again is used in a functionally appropriate way, but with the play directed toward the doll or another person, e.g. the child feeds the doll with a spoon.
- *representational play 2*: the doll, manipulated by the child, uses the object in a functionally appropriate way, e.g. the child places the bottle between the doll's hands, pretending the doll is feeding itself.
- *symbolic play*: an object is symbolically substituted for an absent one, e.g.

the child substitutes the stove for a car.

— *sequential play*: a sequence of play behavior occurs inside a common framework, *e.g.* the child cooks on the stove, brings the pans to the table, empties pans onto plates and finally feeds the dolls.

(c) *Play behavior with spatial characteristics*:

— *relational play*: objects are brought in touch with each other in a non-functional way, *e.g.* the child touches plate to chair.

— *container play*: one object is put into another in a non-functional way, *e.g.* the child puts the doll into a cup.

— *stacking*: objects are placed one on another, *e.g.* the child stacks chairs, cups and plates.

— *grouping*: the same type of objects are clustered, *e.g.* the child puts all the chairs together.

— *spatial arrangement* of chairs, tables and dishes: the accuracy of the arrangement of chairs around the table and placement of dishes was scored on a five-point scale: 0 = no understanding; 1 = limited understanding, *e.g.* the child sets plates on the table; 2 = some understanding of less than half of play, *e.g.* the child sets the table with plates and cups; 3 = some understanding of more than half of play, *e.g.* the child tries to put the chairs around the table, and sets the table with plates, cups and spoons; 4 = almost complete understanding, *e.g.* the child arranges the chairs around the table and sets the table, making minor mistakes; 5 = complete understanding, *e.g.* the child arranges the chairs around the table and correctly sets the table.

(d) *Non-specific play behavior*:

— *others*: this includes all play behavior not applicable to the above categories, *e.g.* the child puts cups on chairs.

— *non-play behavior*: the child refuses to

become involved with the toys because of shyness, lack of interest, or distraction.

Each time the child completed his play with one of the 12 sets of toys the play behavior was recorded (Table II). One or two (occasionally three) types of play behavior were noted for each set of toys. For example, the child's visual examination of the cup, followed by feeding himself with the spoon, were recorded as visual exploration and functional play. Repetition of play behavior, such as repetitive feeding with the spoon, was scored as 1. Different expressions of the same type of play behavior were scored separately, *e.g.* feeding with a spoon and drinking from a cup were scored as two types of functional play behavior. During one play session the mean incidence of types of play behavior for one child was 21, with a range from 15 to 25.

The reliability between the observations made during the play session and those made from the videotapes was 0.98 for mouthing, 0.96 for manipulatory play and visual exploration, 0.93 for representational play 1 and 2, 0.90 for functional play, 0.89 for sequential play, 0.86 for 'others' and symbolic play, and 0.83 for non-play behavior. The over-all inter-observer reliability for observations made from the videotapes was 0.91.

Imitation of Functional and Representational Play Behavior

In order to assess the child's ability to imitate play, five functional and five representational types of play behavior were demonstrated by the examiner and the child was asked to imitate these behaviors (Table III). Each type of behavior was demonstrated not more than twice. The child's response within the first minute after the demonstration was recorded. The child's affect displayed during the demonstration and subsequent imitation was also noted.

TABLE III
Demonstrated* functional and representational
play behavior

<i>Functional play behavior</i>
Feeding with spoon
Drinking from cup
Wiping face with napkin
Brushing hair with brush
Holding telephone to ear
<i>Representational play behavior</i>
Feeding doll with spoon
Giving cup to doll
Wiping doll's face
Brushing doll's hair
Holding telephone to doll's ear

*Examiner demonstrated each type of behavior and asked child to imitate it. No behavior was demonstrated more than twice.

Results

Developmental Progression of Play Behavior

(a) Play behavior with exploratory characteristics:

All but one of the nine-month-old children showed mouthing and manipulatory play (banging, throwing or waving) (Table IV). Within the next six months the frequency of both mouthing and manipulation declined rapidly: by 18 months only one child mouthed and banged the toys.

In addition to mouthing and manipulatory play, most children at nine months also exhibited visual exploratory behavior. They looked at, fingered, and turned the toys around. Visual exploration was at its peak at 12 months: it became much less frequent after 18 months, but never dropped out completely.

(b) Play behavior with functional characteristics:

Functional play was observed in more than half of the children at nine months and became the dominant play behavior at 15 months, when all children used objects appropriately on their own body, e.g. they brushed their own hair. Beyond 18 months functional play was increasingly

replaced by representational play.

Representational play 1 was seen in one child at nine months, in more than half of the children at 12 months and in all the children at 18 months. In this type of play the self-related activities of functional play were directed toward the doll, e.g. the child brushed the doll's hair. Occasionally the mother or examiner was chosen by the child as the object of representational play. The amount of representational play observed doubled between 18 and 30 months. Some children displayed as many as 17 different types of behavior during representational play.

Between 21 and 30 months about a quarter of the children extended their play by making the doll (a passive recipient in representational play 1) an active partner in their play (representational play 2). For example, the child not only brushed the doll's hair, he made the doll hold the brush as if it were doing the brushing.

Sequential play was observed in four children at 21 months, consisting of a series of related types of play, e.g. the child cooked on the stove, emptied the pans onto the plates and finally fed the dolls with a spoon. By 30 months 11 of the 16 children were demonstrating this type of play behavior.

Symbolic play was observed in only four children during the first half of the third year, none of whom displayed more than one type of symbolic behavior.

(c) Play behavior with spatial characteristics:

Between nine and 15 months the children frequently demonstrated relational play, touching one object to another in a non-functional way (e.g. a cup to a chair) (Table V). Also, during this age-period the children displayed increased interest in contents and containers, e.g. a doll was repeatedly put in and out of a cup. The peak age for container play was 15

TABLE IV
Incidence of play behavior with exploratory, functional and non-specific characteristics

Play behavior	9			12			15			18			21			24			27			30								
	Mean	Range	No.*	Mean	Range	No.																								
Exploratory	6.2	0-11	15	3.5	0-10	12	1.0	0-6	8	0.1	0-1	1	0.1	0-1	1	0.1	0-1	1	0.1	0-1	1	0.1	0-1	1	0.1	0-1	1			
Mouthing	4.0	0-8	15	1.5	0-6	10	0.8	0-3	6	0.1	0-1	1	0.1	0-1	1	0.1	0-1	1	0.1	0-1	1	0.1	0-1	1	0.1	0-1	1	0.1	0-1	
Manipulatory play	5.7	0-12	14	5.8	1-10	16	5.6	3-9	16	3.4	1-6	16	1.7	0-4	14	2.3	0-6	13	1.9	0-4	11	1.7	0-3	11	0.3	0-3	11	0.3	0-3	
Visual exploration																														
Functional	1.7	0-4	11	3.5	0-6	15	6.0	1-8	16	4.9	1-9	16	2.0	1-4	16	1.7	0-4	11	1.6	0-6	13	0.8	0-3	8	0.3	0-3	8	0.3	0-3	
Representational	0.2	0-3	1	1.2	0-3	10	2.4	0-6	11	5.6	2-10	16	8.8	4-13	16	9.8	5-17	16	11.4	4-15	16	10.8	5-13	16	0.3	0-3	8	0.3	0-3	
Representational play 1																														
Representational play 2																														
Symbolic play																														
Sequential play																														
Non-specific	0.3	0-2	3	0.3	0-2	4	0.1	0-1	2	0.8	0-3	9	1.0	0.4	2	0.1	0-1	1	0.2	0-2	3	0.2	0-2	2	0.2	0-2	2	0.2	0-2	
'Other'	0.3	0-3	3	0.4	0-3	3	0.7	0-3	6	0.8	0-3	9	1.0	0.4	9	0.7	0-5	6	0.6	0-3	6	0.7	0-3	7	0.3	0-3	7	0.3	0-3	
Non-play behavior																														

*Number of children displaying play behavior.

TABLE V
Incidence of play behavior with spatial characteristics

Play behavior	9			12			15			18			21			24			27			30			
	Mean	Range	No.*	Mean	Range	No.																			
Relational play	0.9	0-5	8	1.6	0-5	12	0.3	0-3	2	0.3	0-2	3	0.1	0-1	1	0.3	0-2	3	0.1	0-1	1	0.3	0-2	3	
Container play	0.2	0-1	3	0.4	0-1	8	1.6	0-5	15	1.0	0-4	9	0.6	0-2	7	0.3	0-2	4	0.4	0-1	4	0.1	0-1	1	
Stacking																									
Grouping																									
Arrangement of chairs, table and dishes†																									

*Number of children displaying play behavior.† Scored on 5-point scale.

TABLE VI
Imitation of functional and representational play

Play behavior	9			12			15			18			21			24			27			30		
	Mean	Range	No.*	Mean	Range	No.																		
Functional play	0.7	0-2	9	2.1	0-4	14	4.0	2-5	16	3.2	1-5	16	3.1	1-5	16	2.7	0-5	15	2.9	0-4	14	3.0	0-5	15
Representational play	0.2	0-3	1	0.9	0-4	8	1.7	0-5	12	2.8	1-5	16	4.6	3-5	16	4.3	3-5	16	4.2	2-5	16	4.5	2-5	16

*Number of children imitating at least one behavior. Five functional and five representational play behaviors were demonstrated.

months.

Between 18 and 21 months most children stacked objects, in particular the toy chairs, but beyond 21 months this behavior was less frequent. At the same age the children tended to cluster objects, e.g. all chairs were put together or lined up (grouping). This behavior was not seen before 15 months or after 24 months.

Children at 15 months were not able to relate toy chairs, table and dishes to each other in an appropriate manner (Table V). They were often overwhelmed by the number of objects. At 18 months they began to set the table and some tried to seat themselves on a toy chair. By 24 months most children arranged the chairs around the table, placed the dolls on the chairs and set the table with plates, cups and spoons.

(d) *Non-specific play behavior:*

Play behavior which could not be classified ('others') occurred infrequently and in a minority of children. Some may have been functional or representational play, meaningful to the child but not to the observer.

'Non-play' behavior occurred in between three and nine children in each age-group. They refused to play with one or two (rarely, three or more) sets of toys. This behavior in children between nine and 18 months of age was mainly due to shyness: in older children it seemed to be due to lack of interest or to distraction.

Imitation of Functional and Representational Play Behavior.

Two major observations were made. Firstly, children did not imitate functional or representational play behavior unless those types of behavior were in their spontaneous play repertoire. Secondly, the greatest affect was displayed by the children when the demonstrated behavior matched the child's developmental level of play.

Children 12 to 15 months of age who displayed functional play during the play session eagerly imitated functional play behavior (Table VI), but younger children, without functional play, were not likely to imitate such behavior: they either ignored the demonstrated behavior or looked puzzled and withdrew. Beyond 15

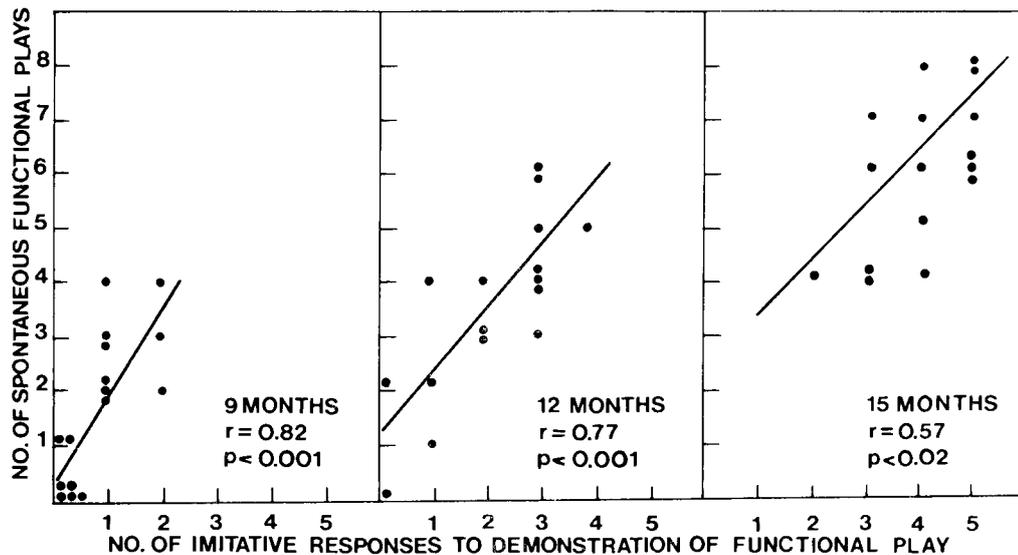


Fig. 2. Relationship between spontaneous and imitative functional play.

months the children were increasingly reluctant to imitate functional play, appearing to be bored by the demonstration. These findings were reflected by a positive correlation between spontaneous and imitated functional play behavior at ages nine, 12 and 15 months (Fig. 2). No such correlation was found in the older children because of the replacement of functional play by representational play.

All but one of the children without representational play did not imitate it (Fig. 3). The most conspicuous finding was that 12-month to 15-month-old children imitated functional play and were not able to imitate representational play unless they displayed it spontaneously. Children without spontaneous representational play responded to its demonstration either by showing functional play or by regressing to a more immature type of play behavior, such as mouthing and throwing. Children with representational play obviously enjoyed the demonstra-

tion, smiled and vocalised while imitating the demonstrated behavior.

Sex Differences

As the number of children in each age-group was small, the results may only be regarded as suggestive. No sex differences were found before 21 months. Boys showed significantly more visual exploration than girls at 21 months ($p < 0.02$), 24 months ($p < 0.05$) and 30 months ($p < 0.02$). Girls had significantly more sequential play than boys at 24 months ($p < 0.05$), 27 months ($p < 0.01$) and 30 months ($p < 0.01$).

Discussion

Between nine and 30 months of age different patterns of play behavior could be observed, which seemed to match best the child's cognitive abilities and interests at a particular age. At the end of the first year the dominant play pattern was exploration through mouthing, manipulation

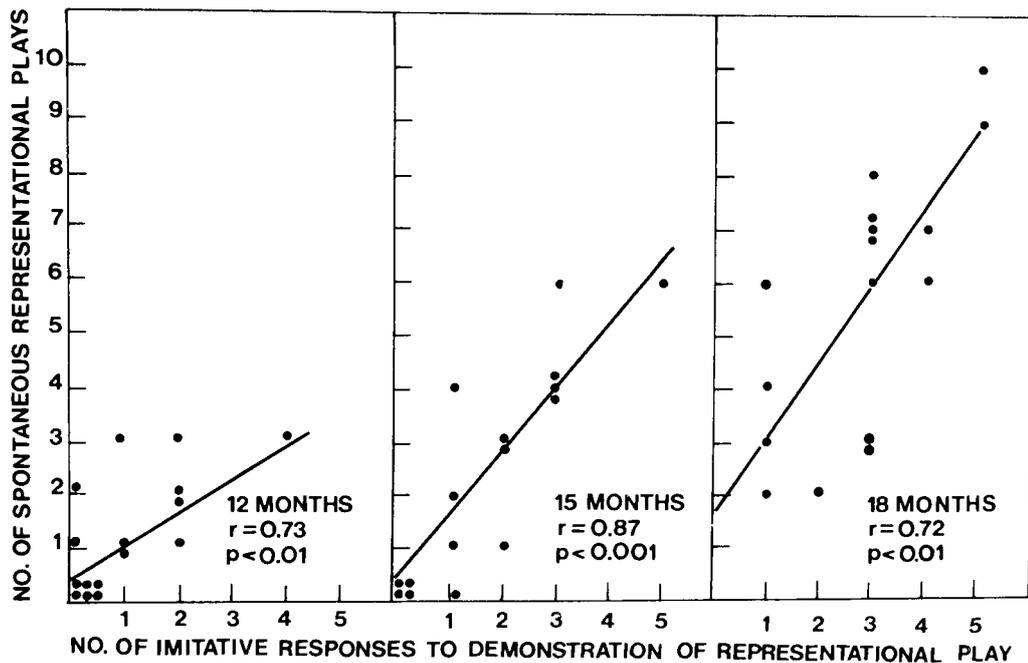


Fig. 3. Relationship between spontaneous and imitative representational play.

and visual exploration. During this period the objects appeared to become endowed with physical and functional properties, which enabled the child to distinguish between them (Sinclair 1970, Kagan 1972, Fenson *et al.* 1976) and to develop functional play.

With the onset of functional play at the beginning of the second year, the capability emerged to use objects in a functionally appropriate manner. At this developmental stage the use of objects was restricted to the child's own body. Functional play seemed to be largely deferred imitation of behavior the child had experienced in the past.

In representational play 1, the dominant play pattern between 18 and 30 months, the play activities were transferred from the child's own body onto the doll. With this transition the action patterns or schemas seemed to become independent of the context within which the child had experienced them. The child was now able to apply action patterns in a new context. According to Piaget (1967), this is the decisive step which leads from the sensorimotor into the symbolic period.

Representational play 2 and sequential play can be seen as reflections of the continuing development of the symbolic thinking during the first half of the third year of life. The phenomenon which Lowe (1975) describes as 'the doll became an agent in its own right rather than a recipient of the child's care' was first observed in a 21-month-old girl. She placed the doll in front of the mirror and put the brush between the doll's arms, as if the doll was using it (representational play 2).

In sequential play, the children demonstrated the capability to combine several play activities inside a common framework.

Certain play behavior seemed to reflect the development of spatial concepts, as suggested by Sinclair (1970, 1971). At the

beginning of the second year of life content and containers attracted the child's attention. The age of container play at 15 months coincided with the emergence of verbal comprehension of the preposition 'into' (Largo and Howard 1979). After 15 months the understanding of the relationships between table, chairs and dishes occurred, as did the well-known stacking behavior, which reflects the child's growing awareness of the vertical dimension (Gesell and Amatruda 1947).

Two types of play behavior with spatial characteristics might be explained by others as spatial concepts. Relational play (objects brought together in a non-functional way) reflects the emerging ability to compare and relate schemas, according to Kagan (1972) and Fenson *et al.* (1976). The grouping behavior observed at 18 to 24 months can be seen as an expression of early categorization, according to Ricciuti (1965) and Nelson (1973).

One of the most interesting findings of this study was the close relationship between spontaneous play and imitation of functional and representational play. Children did not imitate functional play unless it was already part of their play repertoire. Children with spontaneous functional play and without representational play imitated only functional play behavior, while those who displayed representational play imitated representational play behavior. These findings indicate that the child's ability to imitate is dependent on his cognitive development, in that play behavior was imitated only when it was at the same or a lower developmental level than behavior displayed spontaneously. It should be emphasized that this applies only to imitation immediately following the demonstration. There is some evidence (Piaget 1967, Watson and Fischer 1977) that in delayed imitation, play behavior can be imitated which is more sophisticated than

that spontaneously displayed: this was illustrated by a nine-month child in our study who demonstrated no spontaneous representational play and did not respond to the its demonstration, yet went home and fed the dog with a spoon.

The difference between the developmental level of spontaneous play behavior and that of the demonstrated behavior also determined the child's affective response. When the demonstrated behavior was developmentally more advanced than the child's spontaneous play, the child either ignored the demonstration or became confused and withdrew. When the demonstrated behavior matched the child's spontaneous play, the result was a highly responsive child who smiled, vocalized during the demonstration and eagerly imitated the behavior. When the demonstrated play behavior was on a lower developmental level than the child's play, low or absent affect was noted.

The developmental sequence of play behavior between nine and 30 months, as described in this study, is consistent with previous reports (Inhelder *et al.* 1972, Lowe 1975, Rosenblatt 1977, Watson and Fischer 1977, Zelazo and Kearsley 1977). However, most types of play behavior, in particular functional and representational play, occurred at an earlier age in this study. For example, representational play is reported to emerge between 18 and 24 months but one of our children showed three types of representational play as early as nine months. We believe the early onset of play behavior in this study is due to both the structured play situation and the types of toys chosen. Pilot experiments revealed that play behavior in a structured play situation occurred more frequently and at an earlier age than in a free play situation. Furthermore, toys which were perceptually close to real objects elicited more sophisticated play at an earlier age

than did more abstract objects. All nine-month-old children smiled and hugged the big doll, which had fairly realistic features. However, they showed no reaction to two smaller dolls, which were more 'abstract' than the big doll, and they did not develop representational play with these small dolls before the age of 18 months.

The size of the objects seemed to have a minor impact on the child's play. Some of the 18-month-old children tried to seat themselves on a toy chair, which may indicate insufficient perception. However, the miniature cups, plates and spoons elicited functional and representational play as much as normal-sized objects did.

There was no sex difference in terms of preference for certain objects, as reported by Lowe (1975) and Rosenblatt (1977), but there was a sex difference as far as types of play behavior were concerned. More sequential play was found in girls than in boys and more visual exploration in boys than in girls between 21 and 30 months. Whether these sex differences reflect more interest in and previous experience with the toys by girls than by boys, or are cognitive in origin, needs further investigation.

We feel this structured play assessment is clinically useful, since it makes minimal demands on the child, easily elicits play behavior at various ages, does not require verbal communication and can be scored conveniently. Clinically, it was found to be a useful tool for developmental evaluations and for counseling parents of normal, physically handicapped and retarded children. We were particularly impressed by the strong modelling effect the child's play had on the parents. The play assessment also helped physicians, psychologists and educators to learn about the developmental progress of play behavior in young children and the relationship between spontaneous and imitative play.

Acknowledgements: We thank Professor A.H. Parmelee and Mary O'Connor, Ph.D., Department of Pediatrics, University of California, for their helpful criticism in the preparation of this paper.

The research was supported by a fellowship to the first author (R.H.L.) from the Swiss National Funds, no. 840 463 76.

AUTHORS' APPOINTMENTS

Remo H. Largo, M.D., Fellow in Child Development;

Judy A. Howard, M.D., Assistant Professor of Pediatrics;

Department of Pediatrics, Child Development Division, University of California, Los Angeles.

SUMMARY

The developmental progression of play behavior was studied cross-sectionally in 85 children at eight age-levels between nine and 30 months. In a structured play situation, three major play patterns were distinguished: (1) exploratory play (at the end of the first year); (2) functional play (beginning of second year); and (3) representational play (after 15 months). Sequential play first occurred at 21 months. Play behavior with spatial characteristics was also observed: relational and container play between nine and 15 months, and understanding of spatial relationships, stacking and grouping between 18 and 24 months.

There was a significant relationship between spontaneous and imitative play behavior; the greatest affect was displayed when the demonstrated behaviors matched the child's developmental level of play.

RÉSUMÉ

Evolution développementale des comportements de jeu chez les enfants de neuf à 30 mois. I: Jeux spontanés et imitation.

La progression développementale des comportements de jeu a été étudiée transversalement et longitudinalement chez 85 enfants à huit niveaux d'âge entre neuf et 30 mois. Dans une situation structurée de jeu, trois groupements majeurs de jeu ont pu être distingués — (1) le jeu exploratoire (à la fin de la première année); (2) le jeu fonctionnel (au début de la seconde année); (3) le jeu de représentation (passé 15 mois). Les premiers jeux séquentiels sont apparus à 21 mois. Les comportements de jeu avec caractéristiques spatiales ont été également observés — jeu de relation entre 9 et 15 mois et compréhension des relations spatiales après 24 mois.

On a pu noter une relation significative entre les comportements de jeu spontanés et imitatifs; les réactions affectives les plus vives ont été manifestées lorsque les comportements de démonstration correspondaient au niveau développemental de jeu de l'enfant.

ZUSAMMENFASSUNG

Fortschritte in der Entwicklung des Spielverhaltens bei Kindern im Alter zwischen neun und 30 Monaten. I: Spontanes und nachahmendes Spielverhalten.

Der entwicklungsbedingte Fortschritt von Spielverhalten wurde bei 85 Kindern acht verschiedener Altersgruppen zwischen neun und 30 Monaten im Querschnitt untersucht. In der strukturierten Spielsituation wurden drei Hauptspielmuster unterschieden. (1) untersuchendes Spiel (am Ende des ersten Lebensjahres); (2) funktionelles Spiel (Anfang des zweiten Jahres); (3) begriffliches Spiel (nach 15 Monaten). Spielfolgen traten zuerst mit 21 Monaten auf. Spielverhalten mit räumlichen Charakteristika wurden ebenfalls beobachtet: Beziehungsspiel zwischen neun und 15 Monaten, und Verständnis räumlicher Beziehungen mit 24 Monaten.

Es bestand eine signifikante Beziehung zwischen spontanen und nachahmenden Spielverhalten; es war das beste Ergebnis, wenn das dargebotene Verhalten mit dem kindlichen Spielentwicklungsstand übereinstimmte.

RESUMEN

Progreso del desarrollo de los comportamientos del juego en niños de nueve a 30 meses. I: Juego espontáneo e imitación.

La progresión en el desarrollo de los comportamientos del juego fue estudiada transversalmente en 85 niños a ocho niveles de edad entre 9 y 30 meses. En una situación de juego estructurada, se distinguieron tres esquemas mayores de juego: (1) juego exploratorio (al final del primer año); (2) juego funcional (al principio de segundo año); (3) juego representativo (después de los 15 meses). El juego secuencial ocurrió por primera vez a los 21 meses. Los comportamientos del juego con características especiales fueron también estudiados: juego relacional entre nueve y 15 meses y comprensión de las relaciones espaciales a los 24 meses.

Había una relación significativa entre los comportamientos de juego espontáneo e imitativo; el afecto mayor se desarrolló cuando los comportamientos demostrados estaban de acuerdo con el nivel de desarrollo de juego del niño.

REFERENCES

- 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**, 232-236.
- Gesell, A., Amatruda, C. S. (1966) *Developmental Diagnosis*. New York: Hoeber.
- Hulme, I., Lunzer, E. A. (1966) 'Play, language and reasoning in subnormal children.' *Journal of Child Psychology and Psychiatry*, **7**, 107-123.
- Inhelder, B., Lezine, I., Sinclair, H., Stambak, M. (1972) 'Le debut de la fonction symbolique.' *Archives de Psychologie*, **41**, 187-243.
- Kagan, J. (1972) 'Do infants think?' *Scientific American*, **226** (3), 74-82.
- Largo, R. H., Howard, J. A. (1979) 'Developmental progression in play behavior of children between nine and thirty months. II: Spontaneous play and language development.' *Developmental Medicine and Child Neurology*, **21**, (in press).
- Lezine, I. (1973) 'The transition from sensorimotor to earliest symbolic function in early development.' In Nurnberger, J. I. (Ed.) *Biological and Environmental Determinations of Early Development*. Baltimore: Williams & Wilkins. pp. 221-332.
- 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. A. (1959) 'Intellectual development in the play of young children.' *Educational Review*, **11**, 205-217.
- McCall, R. B., Parke, R. D., Kavanaugh, R. D. (1977) 'Imitation of live and televised models by children one to three years of age.' *Monographs of the Society for Research in Child Development No. 173*.
- Nelson, K. (1973) 'Some evidence for the cognitive primacy of categorization and its functional equivalence.' *Merrill-Palmer Quarterly*, **19**, 21-39.
- Piaget, J. (1952) *The Origins of Intelligence, 2nd Ed.* New York: International Press.
- (1967) *Play, Dreams and Imitation in Childhood*. London: Routledge & Kegan Paul.
- Ricciuti, H. N. (1965) 'Object grouping and selective ordering behavior in infants 12 to 24 months old.' *Merrill-Palmer Quarterly*, **12**, 129-148.
- Rosenblatt, D. (1977) 'Developmental trends in infant play.' In Tizard, B., Harvey, D. (Eds.) *Biology of Play. Clinics in Developmental Medicine No. 62*. London: S.I.M.P. with Heinemann Medical, Philadelphia: Lippincott. pp. 33-44.
- Sheridan, M. D. (1969) 'Playthings in the development of language.' *Health Trends Quarterly Review*, **1**, 7-10.
- Sinclair, H. (1970) 'The transition from sensory motor behavior to symbolic activity.' *Interchange*, **1**, 119-126.
- (1971) 'Sensorimotor action patterns as a condition for the acquisition of syntax.' In Huxley, R., Ingram, E. (Eds.) *Language Acquisition: Models and Methods*. New York: Academic Press.
- Watson, W. W., Fischer, K. W. (1977) 'A developmental sequence of agent use in late infancy.' *Child Development*, **48**, 828-836.
- Zelazo, P. R., Kearsley, R. B. (1977) 'Functional play: evidence for a cognitive metamorphosis in the year old infant.' *Paper presented at the Biennial Meeting of the Society for Research in Child Development, New Orleans*.