Chapter 1

An Introduction to Play

Why Play?

Why play? Why a book on play in children? And, why do children play? It is clearly fun, but is it of any practical importance?

This is far from being the only book on children's play. There are many, including some good contemporary books. But this book does attempt to bring together a variety of perspectives—psychological theories, the cross-cultural evidence, and the evolutionary perspective including work on animal play. The focus, however, is on play in childhood.

Why do children play? Play certainly takes up an appreciable portion of many children's time budgets. It seems likely it is an important part of children's development, but views on this continue to be debated. We will review the evidence, and the theories they are testing. A lot depends on which kinds of play we are discussing; and what we mean by "important."

There are various definitions of what play is, and of various kinds of play. Some have had much more investigation than others. There is a rather vast literature on children's pretend play. By contrast, the research on children's rough-and-tumble play—which arguably is just as prevalent as pretend play—is much more sparse.

In this chapter, we will start with some examples of what is play, and what is not play, which most people would agree on, and then consider the characteristics and definitions of play. We will summarize the various main types of play. We will then look at the main methods of studying play. We will conclude with an overview of the plan for the remainder of the book.

Examples of What Is and What Is Not Play

Here are some short vignettes of behavior: some actually observed (and referenced), others typical of countless behavior sequences.

- Sultana (12 months) watches her mother. Her mother hides her face behind a floppy hat, then removes the hat and says "boo!". Sultana laughs. Her mother hides her face again, then removes it saying "boo!" Sultana laughs even louder. This is repeated, with Sultana reaching for the hat; and her mother saying "where's mommy" and laughing herself, before removing it.
- Jake (18 months) is banging two wooden blocks together. It makes a loud noise. Jake laughs and looks at his dad, and bangs the blocks together several times.
- A two and a half-year-old boy lies in his cot, babbling to himself: "One two three four. One two. One two three four. One two three. Anthony counting. Good boy you. One two three." [from Weir, 1962]
- Amanda and Lisa (4 years) are together. "I know what, I'll be a witch!" says Amanda. "Yes," says Lisa, "put my hat on." "I'll get my stick," says Amanda. "Oh yes, my stick" says Lisa. They "ride" on pretend broomsticks, and make monster noises at Emma and two boys. "Witches, witches, witches!" shouts one boy. "We are witches, we will spell you!" says Amanda. Amanda puts her arms around Laura. "We will spell you, we've got you, we are witches," she says. "I've tied her up" adds Lisa, pretending to tie her up. "No!" shouts Laura and pushes them away. Lisa goes off to where some books are on a chair. "These are special witch books you know!" she says to Amanda. "We are witches, we will turn you into a monster!" Amanda says to Laura, and "we are turning you into a nasty monster" to Stuart. [from transcripts by the author]
- Josephine (5 years) climbs up the ladder to the top of a slide, slides down on her back laughing, runs around, climbs up again, slides down again, runs around, climbs up, and now slides down on her stomach.
- Simon (6 years) runs up to Jared (7 years) in the school playground. He is laughing and kicks at Jared with his leg, and makes "kung fu" or boxing motions with his arms, repeatedly, but without making contact. Jared makes a few boxing motions back, then chases Simon briefly. He catches Simon and they roll on the grass, grappling with each other. After some 30 seconds they get up and walk off together, talking.

- "Arara'ywa, an 8 year old Parakanã (South American Indian) boy, throws his arrow and goes searching for it. He finds it and throws it again. He runs to the place he had aimed at. He looks for the arrow and laughs when he finds it. He runs to get the arrow and throws it once again, and returns smiling to get his arrow. He throws it again and goes to get it, followed by Ma'apyga, a 10 year old boy." [adapted from Gosso, 2005]

These vignettes describe different kinds of behavior, at varied ages, but most people would agree in saying that they were examples of play. Respectively, they could be described as social contingency play; sensorimotor play; language play; fantasy or pretend play; exercise play; rough-and-tumble play; and object play.

Now for some other vignettes:

- Edmund (15 months) is walking and crawling around a room in a friend's house. He is a bit tentative in his movements, looking around, touching a plant pot. He picks up a small box and looks at it, puts it down, and then goes on to a larger box. He stands up and looks inside it.
- Sarah (4 years) is sitting on the floor sucking her thumb. She is rocking backwards and forwards repeatedly, with little variation in her movements.
- Rupa and Shanette (aged 4) are collecting up toy cups and saucers and putting them away in a box. They have been asked to do this by Ms Patel, the nursery teacher. They make repeated trips to the play area, picking things up and putting them in the storage box.
- A group of boys are engaged in a game of soccer. They are kicking the ball about, trying to score in two makeshift goals. Maurice (aged 7) picks up the ball and runs with it. "No!" shouts Barach (aged 8), "you aren't allowed to pick it up!" The other boys agree. Maurice puts the ball down shamefacedly and kicks it with his foot to a team-mate.

What is happening in these episodes? It is likely that most people would not describe these as play. Respectively, they could be described as exploration; stereotypic behavior; work; and games with rules. But they share some features of play. Let's look at some of the characteristics proposed for play, and compare them with these examples.

Characteristics of Playful Behavior

The *Encarta World English Dictionary* (1999) gives many meanings for "play,", but the first two are those relevant for us: (1) to take part in enjoyable activity for the sake of amusement, and (2) to do something for fun, not in earnest.

This suggests a functional way of looking at play—it is done for its own sake, for fun, not for any external purpose. In fact, two different approaches to defining play were proposed by Robert Fagen, an animal ethologist, in 1974: the functional approach and the structural approach. In the functional approach, we look at what the purpose of the behavior is, or appears to be. By contrast, in the structural approach we look at the actual behaviors and the way that they are performed. A third approach is to think which criteria people actually use in deciding whether something is play, or not.

In the functional approach, it is suggested that play does not have an obvious end in itself or an external goal. This led to play being defined as having no clear immediate benefits or obvious goal. Symons (1978) advanced this sort of definition for monkey social play, but it can equally apply to human play. Thus, if an external goal is present (such as a need to eat, or to seek comfort, or to overpower another), then the behavior is not play. This can differentiate play from work, exploration, and perhaps stereotypy (if stereotypic behavior is seeking comfort in some way). Indeed, it can also differentiate play from games with rules, in that games such as football have an external goal. In fact, there are two goals in the proper game! But less facetiously, the general goal in games with rules is to win the game, and this can be a very serious business.

But there are difficulties with this definition. Many theorists, and many ordinary people, believe the child does get benefits from playing. However, perhaps they are not "clear, immediate benefits," but instead "unclear, delayed benefits"? One prominent school of thought is that the benefits of play *are* delayed; that the child is developing strength and skills now that will be useful in adolescence and adulthood. But some theorists believe that many benefits of play are more immediate (e.g. Pellegrini & Bjorklund, 2004); after all, strength and skills can be utilized now as well as in the future. Then, are the benefits clear? There is continuing disagreement about exactly what the benefits of play are; but we might hope to reach more clarity about this in the future. So, if some benefits are immediate, and some benefits are, or at least may become, clear, where does that leave this definition of play?

It may be helpful to think not so much of benefits or goals in the abstract, but from the point of view of the player. Even if (say) exercise play helps develop strength, or pretend play helps develop creativity (issues we consider later), children do not do exercise play in order to develop their muscles, and they do not do pretend play in order to be more creative. These activities are done for enjoyment, for their own sake. If exercise was done specifically in order to develop fitness—as, for example, an adult goes to a gym for a work-out—we would tend to call this work or possibly recreational activity, but not play.

The structural approach to defining play examines the behaviors themselves, and the way behaviors are organized or sequenced, in play as compared to non-play. As regards specific behaviors, the main examples that only occur in play are so-called "play signals" (described further in Chapter 3). In mammals they often take the form of an open-mouthed play face (as in monkeys grappling), or a bouncy gambol (as in puppies or kittens initiating a chase). An example in bonobos is shown in Figure 1.1. In children the corresponding play signals are laughter and the associated "open mouth play face" (Blurton Jones, 1967). Such play signals are especially useful in rough-and-tumble play, where they can indicate that no aggressive intention is implied in a chase or wrestle (see Chapter 6). However a lot of play—especially human play—is not indexed by play signals. Often play is made up entirely of behaviors familiar in other contexts—such as running, climbing, manipulating objects, and talking.

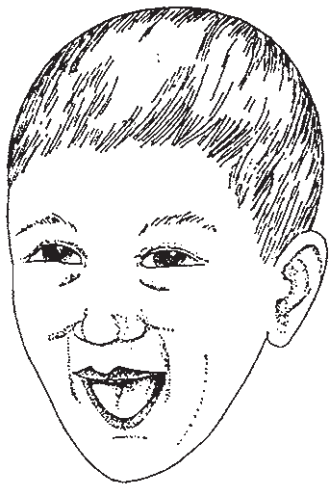

Figure 1.1 A boy showing a play face
(Smith, Cowie, & Blades, 2003: p. 217, Figure 7.1(b))

But what about the ordering or sequencing of these behaviors? Another ethologist, Caroline Loizos (1967) argued that, according to the structural approach, we can think of a behavior sequence as playful, if the constituent behaviors are "repeated," "fragmented," "exaggerated," or "re-ordered." For example, a child just running up a slope may not be playing, but if she runs up and slides down several times (repetition), runs just half-way up (fragmentation), takes unusually large or small steps or jumps (exaggeration) or crawls up and then runs down (re-ordering), we would probably agree that it was playful. The structural approach is not in opposition to the functional one. After all, the child running up and down the slope has no immediate purpose, apart from enjoyment. The two approaches are logically distinct, however.

The third, criteria-based approach can build on both of the previous sets of insights, but is based on the point of view of the observer. It asks what criteria an observer might use to judge whether a behavior sequence is play or not play. A formal model of this was proposed by Krasnor and Pepler (1980), and is shown in Figure 1.2. They suggested there were four "play criteria."

"Intrinsic motivation" refers to the idea that play is not constrained by external rules or social demands, but is done for its own sake; taken from the functional approach.

- "Nonliterality" refers to the "as if" or pretend element. Behaviors do not have their normal or "literal" meaning. This can also be seen as derived from the functional approach, but really comes into its own when we consider pretend play in children.
- "Positive affect" refers to the enjoyment of play, especially indexed by signals such as laughter. Specific play signals are taken from the structural approach.
- "Flexibility" refers to variation in form and content. This captures some of the sequencing aspects of the structural approach.

Krasnor and Pepler argued that no one criterion is sufficient to say something is play, but that the more criteria are present, the more agreement we will have that the behavior is play. Thus, rather than a rigid distinction between "play" and "non-play," we get a continuum from more clearly to less clearly playful behaviors (from the point of view of the observer). However Krasnor and Pepler did not actually try out their model on real observers. An empirical test of their model was subsequently made by Smith and Vollstedt (1985). They used the four criteria above, plus a fifth one:

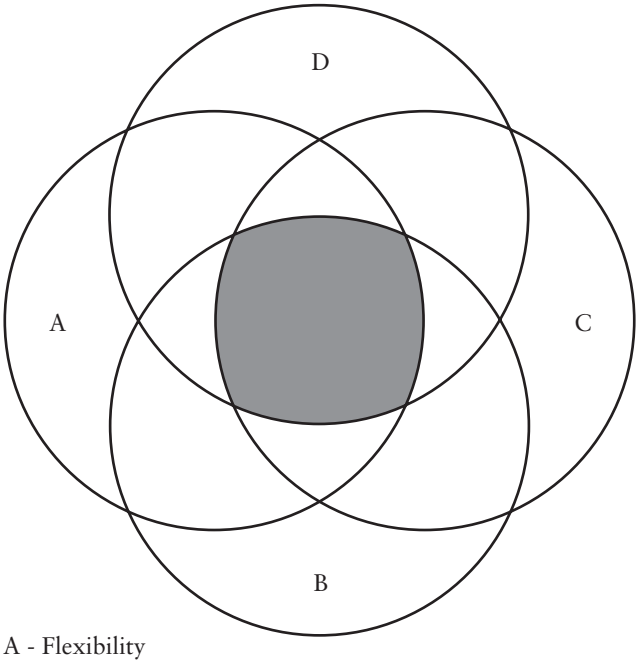

Figure 1.2 Krasnor and Pepler model
(Smith, Cowie, & Blades, 2003: p. 218, Figure 7.2)

- "Means/ends": the child is more interested in the performance of the behavior than in its outcome; another reflection of the structural approach.

To test out the model, Ralph Vollstedt and I made video films of nursery-school children in a purpose-built nursery class in the Department of Psychology at Sheffield University, where I then worked. We selected a number of short, discrete episodes and edited them into a film which we asked 70 adults to view. Some of the adults simply scored each episode as to whether it was playful or not; other adults were asked to judge the applicability of each of the five play criteria. We then examined the match between independent judgments as to applicability of the five criteria, and whether the episode was seen as playful.

We found that the episodes seen as playful were often seen as non-literal, flexible and showing positive affect. Means/ends also correlated

with play, but did not add anything to the first three criteria. Interestingly, the intrinsic motivation criterion did not correlate with play judgments, despite its common occurrence in definitions of play. Observers often rated nonplayful activities (such as watching others or fighting) as intrinsically motivated; equally, some play episodes were seen as externally constrained—for example, by the demands of others in social play.

Further, the more criteria were present, the higher the ratings for playfulness. Taking the three criteria of nonliteralness, flexibility, and positive affect: If none of these were present only 24% of episodes were seen as playful; if one criterion was present, the figure rose to 47%; if two criteria were present, it jumped to 85%, and then to 100% if all three criteria were present. We concluded that if observers judge that any two of these three criteria are present, a judgment of play is likely to be made and that most episodes of play will fall into this category.

The play criterion approach does not attempt a one-sentence definition of play. This is unlikely to be useful: The boundaries are too blurred. It does acknowledge a continuum from nonplayful or less playful to playful behavior. It also identifies how observers actually decide to call a behavior sequence "play." The main criteria so far identified for young children are enjoyment, flexibility, and pretense. In Chapter 3, we will see how this criteria-based approach has been used to try to define animal play.

Types of Play

We will look at the various types of play in more detail in later chapters. There is not universal agreement on a typology. Thinking primarily of children's play, those listed below would be commonly recognized; they follow the vignettes presented above which are exemplars of them.

Social contingency play

This refers to simple games such as peek-a-boo, where there is enjoyment in the responses of others, often contingent on your behavior or on imitation of one person by another.

Sensorimotor play

This refers to activities typical of Piaget's sensorimotor period, that is up to around 2 years. It refers to activities with objects (or one's own body) that are based on the sensory properties of the object(s), for

example sucking objects, banging blocks together, dropping them repeatedly.

Object play

Past the sensorimotor period, children take part in a lot of activities with objects; much of this being construction play. Fitting Lego blocks together, making block towers, using modeling clay, pouring water from one container to another, might count as object play.

Language play

Children can play with noises, syllables, words, and phrases. This can be the kind of babbling that Ruth Weir noted in her two-year-old son Anthony, as he went to sleep, or woke up, in his cot. Or it can be rhyming couplets, or repetitive statements, perhaps in a nonliteral context: "You be mummy!" "No, you be mummy!" "No, I'm daddy, you be mummy!"

Physical activity play

In general, this refers to gross bodily movements (rather than the smaller-scale bodily movements involved for example in sensorimotor play or object play. *Exercise play* is the main form of this—running, jumping, crawling, climbing, and so forth. Deserving separate consideration is *Rough-and-tumble play*. This is a vigorous social form of physical play, involving grappling, wrestling, kicking, chasing, and other behaviors that would be aggressive in a nonplayful context. This is often called play-fighting or play-chasing.

Fantasy or pretend play

Fantasy or pretend play is characterized by the nonliteral use of objects, actions, or vocalizations. A block becomes a cake, or a piece of paper becomes a bus ticket. Actions can mime pretend behaviors such as drinking a cup of tea, or turning the steering wheel of a car. "Vroom-vroom" signifies the car noise. A more complex version of pretend play is *sociodramatic play*. This involves role play and more than one person participating. In the vignette above, Amanda and Lisa are engaged in role play as witches. They also mimed riding broomsticks and tying up a captive, in the absence of any object to represent the broomsticks or string.

These categories can overlap. Some object play may be pretend (building the Eiffel Tower); some language play may be in sociodramatic play ("You be mummy!"). Is pouring water from one bucket to another object play or sensorimotor play? However, they serve as prototypes and as a framework for discussion.

Things That Are Probably Not Play: Exploration, Stereotypic Behavior, Work, Role-Governed Games

Exploration and play

A behavior that is sometimes confused with play is exploration. It is true that with very young children, during sensorimotor development, the distinction between exploration and play is difficult to make (see Chapter 7). For young infants, all objects are novel. However, by the preschool years the distinction is clearer. An experiment illustrating this was carried out by Corinne Hutt (1966). Hutt devised a novel toy (described in more detail in Chapter 7), a box that children could sit on, with a lever that could sound a bell or a buzzer. Children aged 3 to 5 years were rather serious when introduced to the toy, feeling it, touching and moving the lever—they were in fact exploring what the novel object could do. Fairly soon this changed. Typically, a child would relax and sit on the object making noises with the lever repeatedly or in different ways—which was seen as more playful activity. This illustrates how exploration of objects often precedes play with objects.

Stereotyped behaviors

Stereotypic behaviors are often seen in zoo animals, especially large animals penned up in relatively small enclosures. A tiger paces out its enclosure; is this exercise play? In a zoo, it is likely the tiger will follow the same path again, and again, and again, with no sign of enjoyment. Children can also show stereotypic behaviors. In small ways, such as thumb sucking, this may be normal; but repetitive rocking or self-stimulating movements can be an index of a deprived environment. Such stereotyped behaviors can be seen in institutionalized infants, for example in poorly equipped orphanages with little social or environmental resources or stimulation on offer.

Why is this not playful? There is no clear external goal, although presumably these stereotypic behaviors help modulate arousal in a very boring situation—they are more comforting than literally "doing nothing." Thinking of structural characteristics, there is also repetition here certainly, but little flexibility or reordering. Altogether, the lack of enjoyment and the lack of variation or flexibility put these stereotypic behaviors at the non-playful end of the continuum, despite the absence of external goals.

Work

Work refers to activity done for a clear external goal. This may be to earn money, to get food or resources, or to follow the instructions of someone in authority. Western children are rather sheltered from work. Only in later middle childhood or adolescence does it start to be common for children to earn some money by working, perhaps on a newspaper delivery round. Younger children may be asked to help do some household chores, tidy up their room, and so forth, although even these requirements are often not very high-profile. In modern western society, work is not strongly seen as part of childhood, at least up to middle childhood.

At school, of course, children are required to do some tasks and activities, but in the preschool and infant school, a lot of this is in playful mode. In the next chapter we will look at the "play ethos," and the view that "play is indeed the child's work" (Isaacs, 1929). A predominant educational view has been that children learn through play and that therefore "work" is not necessary for learning, up to perhaps the end of infant school. This view is not universally shared in western countries, of course, and it is considerably less prevalent in eastern cultures and in more traditional societies (see Chapter 5). In traditional subsistence cultures, children have a vital role in work-like activities such as protecting the crops from birds, caring for younger siblings, gathering firewood, and other useful tasks. These might or might not be enjoyable, and there may be playful elements embedded: for example, scaring birds from the crops can embody play chasing. But the external constraints to do these tasks do imply that they are not play.

Rule-governed games

"Games" can be distinguished from "play" by the presence of external rules: that means, rules that are established by convention, to a greater

or lesser extent codified, and that provide constraints on what the game players can do. In our vignette above, Maurice broke the rules of soccer by picking the ball up, and the outcome was not enjoyable for him.

The existence of rules is not a clear-cut criterion to distinguish play and games. Peek-a-boo has a kind of rule structure, as has been described by Bruner and Sherwood (1975); they saw the developing expectations the child has (for timing, and repetition, for example) as being the beginnings of understanding rules to a game. The pretend play of preschool children often has some rule structure related to the roles adopted. For example, if someone is role-playing "doctor" to a "patient," there are some constraints on what he or she is expected to do, exerted by the other participants. Nevertheless, any rules or constraints are largely private to that particular play episode, and can be changed at any time ("I'm not the doctor now, I'm a policeman").

By the time children are 6 or 7 years old, rule-governed games like hopscotch, tag or soccer take up much more playground time. These are games with public rules, sometimes codified, with much less latitude for change. The transition from play to games is nevertheless a gradual one. As Jean Piaget showed in his classic study of boys playing marbles in Neuchâtel, Switzerland, the codification and stability of rules increases with age and the cognitive abilities of the players; there is not a clear boundary between play, and games.

This discussion is also relevant to the burgeoning area of video and computer games, and games on the internet. Since 1979, when Space Invaders hit the computer game market, there has been a rapid increase in the time children spend with computer games or in video arcades, and more recently on the internet. Is this "play"? In most cases, the games have definite rules to follow; if you don't follow them, you won't get far, let alone to the next level. It does indeed seem appropriate to refer to these activities as computer games, rather than computer play.

Methods of Studying Play

How have people studied play? The most obvious method, and indeed one often used, has been *observation in natural environments*. Another approach has been *observation in structured environments*. Some *experimental studies* have been carried out; these include enhancement and deprivation studies. It is also possible to use methods more traditional in the social sciences, such as *interviews and questionnaires*. Finally, there are a variety of *other sources*, such as toy inventories, pictures and

photographic records, and other evidence relevant to children's play. We will look at these in turn.

Observation in natural environments

The most obvious way to find out about play is to watch children (or animals) playing, and describe and catalogue what they do. Besides simply describing, one can examine differences in play due to such factors as age, gender, ethnicity, and socioeconomic background. Also one can take account of natural environmental variations; for example, how play changes in different weather conditions or at different times of day.

It is worth remarking, however, that in many fields of psychology and child study, observation in natural surroundings has *not* been the major source of evidence. As an example, most studies of aggression and anti-social behavior in middle childhood and adolescence use questionnaires (self-report, or by parents, teachers or peers), or incident reports from schools, or (for delinquency) police records. In my own research on school bullying (Smith, 2000), I mainly used self-report questionnaires, peer nominations, and sometimes parent or teacher reports.

My own view is that it is rather regrettable, if at times understandable, that child study has not often used observation in natural surroundings as much as it might have done. It was certainly very much neglected for a period from around the 1950s to the 1970s. However, in the case of children's play, the incentives for this method are perhaps greater, and the disadvantages less, than in many other areas of child psychology. Regarding incentives, an important criterion for play is that it is unconstrained and done for its own sake. Therefore, artificial (constrained or experimental) situations are in danger of destroying an important characteristic of play. Regarding lack of disadvantages, play (unlike aggression or bullying) is approved of by adults (in most cases), so there is no need for children to conceal it from them. Also, the main age range for observing play is the preschool and infant school period (around 2 to 6 years), and children of this age do not seem to mind being watched. Anyone who goes to a playgroup or nursery class can easily watch lots of play going on, without their presence having much effect—something not so true in middle childhood or adolescence.

Is a playgroup a "natural environment" for young children? That is quite a deep question, which we can consider more thoroughly in Chapter 5 on cross-cultural issues. Free play in a playgroup is relatively unconstrained, but it might not be "natural" in terms of our evolutionary

history. Certainly, the kinds of toys seen in them were not common until recent times. Even the composition of a playgroup—a large (20+) assembly of children of the same age, give or take 6 or 9 months—could be considered unnatural in terms of what children experienced in historical times or in nonwestern cultures (Konner, 1976).

The observation of play in natural surroundings has its strongest representation in the study of play in animal species by ethologists. Here, the "natural environment" is a meaningful term, as (apart from pets, farm and zoo animals) most animals live in environments not too different from those they evolved in. A classic example of such a study is Jane van Lawick Goodall's (1968) observations of free-living chimpanzees in the Gombe Stream Reserve in Tanzania. She observed many fascinating behaviors, including infant chimpanzee play. The newborn infant is dependent on its mother for food, transport, and protection, but after 6 months or so begins to crawl around on its own while staying in the mother's vicinity. Soon it engages in tickling, wrestling and chasing play with mother, siblings, and peers. Many other studies of animal play will be considered in Chapters 3 and 4 (many, but not all, using such observational methodology).

During the 1930s, many researchers studying children used observation in the reasonably natural situation of a playgroup or nursery class to study typical behaviors, including play, in 3 to 5-year-old children. They (like the ethologists studying animals) developed categories and coding schemes, as well as time-sampling methodologies to record behaviors (Arrington, 1943). This research laid the groundwork for our knowledge of typical behavior patterns in western children in the 20th century. It was put to use in the child welfare institutes and the playgroups and nursery classes starting up in the USA, the UK and other western countries. Although this work had petered out by the 1950s, the observational approach was picked up again in the 1970s by child ethologists (Blurton Jones, 1972). Inspired by the animal ethologists, these researchers, often from multi-disciplinary backgrounds, sought to go back to basics in describing human, including child, behaviors. Some of this work reinvented the 1930s work; but, it had a more modern theoretical basis in evolutionary theory (Smith & Connolly, 1972). One notable outcome was highlighting rough-and-tumble play in young children, a topic neglected by the more educationally oriented psychologists and child study workers of earlier decades. Nicholas Blurton Jones, who had trained as an ethologist with Niko Tinbergen, used this research background to describe rough-and-tumble play and other play activities in an unstructured observational study of children in a nursery school.

The approach of the ethologists brought together two methodological aspects which, although often confused, are quite separable. One was the concept of a "natural environment," as discussed above. The other was the use of observational methods, often taken further by developing category lists of behaviors. Three category lists of play behaviors are shown in Table 1.1, one from the 1930s, one from the 1980s, one from the 2000s. Category lists can be combined with time-sampling methods—ways of recording the occurrence of categories systematically—to give quantitative measures of time spent in types of play, and sequences of behavior. It is then possible to examine how play varies by age, gender, or other individual characteristics; and by factors such as size and composition of group, location, and so forth.

Observation in structured environments

In this approach, observational methodology is used, but there is no attempt to have a "natural environment." For example, a child might be presented with a limited set of toys to see how he or she plays with them. This kind of approach was used in many studies of the development of pretend play. By imposing more constraint on the situation, some benefits are gained. For instance, it is possible to demonstrate age changes in how children can use the same set of objects while, in a natural situation, this opportunity could be difficult to realize. But there are also losses. As a natural home observation study showed (Haight & Miller, 1993), the majority of pretend play is social—between child and parent, or later between child and sibling or peer. The paradigm of a solitary child playing with a limited set of toy objects is a long way from how most children actually develop their pretend play capabilities.

Experimental studies

Experimental studies provide further control by explicitly placing children in different conditions: an experimental and control condition, or two or more experimental conditions. If all else is held constant, differences can be fairly confidently ascribed to the variables manipulated in the experimental conditions.

Often, experiments take place in constrained environments. For example, using the set of toys (as discussed above), a child's play behaviors might be compared at the same time and place but with slightly different sets of toys. Greta Fein (1975) looked at what 2-year-olds do

Table 1.1 Three Category Lists of Play Behaviors

1 (source: Manwell & Mengert, 1934)

Language frequency
Physical activity
Creative or constructive activity
Manipulative activity
Dramatic activity
Interest in stories
Interest in pictures
Interest in music
Self-responsibility
Attitudes in routines
Attention
Leadership
Group play
Independence of group
Watching others at play
Independence of adult
Kindness or sympathy
Conformity
Fair play regarding common property
Understanding of common property
Assuming responsibility
Laughing
Stability
Self-assertion
Mood
Ability to face a situation
Crying

Comment: this is taken from one of the early observational studies carried out in the USA in the 1930s, following the development of such methodology by pioneers such as Florence Goodenough and Ruth Arrington. Each of the categories above has several sentences of explanation/definition in the original article, which is good practice and obviously necessary in many cases (for example, Self-responsibility refers to taking a series of steps in getting ready for play, such as putting a cloth on a table and then getting clay to play with). Some categories (such as Manipulative activity, Dramatic play) are similar to ones we would use now; others (such as Ability to face a situation, Conformity) reflect prevailing concerns of nursery school teachers. The authors found only some categories to be reliable (in terms of inter-observer agreement), but they were able to examine types of group play at different ages from 2 to 4 years.

2 (source: Humphreys & Smith, 1987)

Passive-noninteractive: Sit; Stand; Lie; Eat; Watch person; Look at place; Sedentary; Musical
Passive-Interactive: Talk; With adult; Contact/comfort; Groom; Walk and talk
Observer-directed: Attend to observer
Adult-organized: Ordered by adult; Official sport
Locomotion: Walk; Run; Skip/hop
Nonlocomotor-active: Ball play; Climb; Roll, spin; Piggyback; Gymnastic; Dance; Support child
Object play: Quiet; Active
Role play: Quiet; Active
Rough-and-tumble: Tease/taunt; Hit/kick; Poke/maul; Pounce; Sneak up; Carry child; Pile on; Play-fight (stand); Play-fight (lie); Chase; Hold/grab; Push; Be chased/hit, etc
Aggressive: Argue/insult; Fight
Distress: Cry
Rule games: Skipping; Turn skip-rope; Chasing; Competitive; Clapping songs; Marbles; Count out; Football; Rounders; Throw/catch; Hopscotch; Other

Table 1.1 (*continued*)

Comment: These categories were designed to cover the range of behaviors seen in 7, 9 and 11-year-olds in school playgrounds in the UK in the 1980s. The larger categories were used to calculate time budgets for various activities; these are shown later in Figure 6.1. However, the main focus of the article was on rough-and-tumble play, hence the large number of individual categories within this global measure. The categories were influenced by the ethological perspective, and many are based on obvious behaviors, such as "run", or "turn skip-rope." However, the list would benefit from some definitional material, especially for categories like "quiet" and "active." The categories within the rule games section (as elsewhere) correspond to what was actually observed in the study, so might be expected to vary in different historical periods and in different cultures.

3 (source: Gosso, Morais, & Otta, 2007).

Physical exercise—play that involves various types of movements requiring gross motor coordination (e.g. running, jumping, and swimming), as well as activities that produce action-contingent effects (e.g. throwing or pushing objects);

Social contingency—games apparently motivated and reinforced by pleasure in producing contingent responses in others and in responding contingently to others (e.g. peek-a-boo, tickling, imitating gestures or verbalizations);

Rough-and-tumble—play-fighting, play chase, and play escape;

Construction—physical transformations in objects such as sand, clay, or Lego are produced, including molding, arranging objects in piles or rows, and making small baskets;

Pretend play—actions, objects, persons, places, or other dimensions of the here-and-now are transformed or treated nonliterally (analyzed in more detail by content of pretend play themes: *work*; *transportation*; *take care*; *animal actions*; *play fighting*; *daily life activities*; *entertainment*; *fantastic themes*).
Games with rules—those guided by explicit rules, often involving, at this age range, sensory-motor aspects, such as volleyball and soccer.

Comment: this study was used in comparing play from different groups of Brazilian children, including the Parakanã Indians (see Chapter 5). The main play categories are those broadly recognized now in most play research. In addition, these authors focused on pretend play in some depth, including the content of the play, plus other categories relating to the ideational scheme (nature of transformations) not reproduced above.

when they are given (a) miniature objects such as a plastic cup and a detailed horse model; or (b) less realistic objects such as a clam shell and a vaguely horsey-shaped object. After modelling by an adult, some 93% of 2-year-olds would imitate making the horse "drink" from the cup; however, only 33% would imitate making a horsey shape "drink" from a clam shell. The less realistic objects made the pretense more difficult; and the difference in behavior can be ascribed to the difference in the objects presented, on the plausible assumption that all other factors were equal.

Experiments can also be carried out in more natural environments. In a series of studies on preschool playgroups, Smith and Connolly (1980) observed the natural behavior of children aged 3 to 4 years with a large variety of toys. However they did vary aspects of the preschool environment in experimental ways. They looked at changes in the space available (by moving certain screens in the hall); they looked at the quantity of toys available (by having 1, 2, or 3 sets of all major items); and they looked at the size of the group (by having c. 10, 20, or 30 children attending). The different conditions were varied independently and on a large number of occasions, so that conclusions could be drawn about the effects of these variables. For example, a decrease in space produced less physical activity play, but did encourage more use of climbing frames (at the expense of running). Fewer sets of toys meant more sharing, but also more squabbling over possession.

Some experiments fall into the category of enhancement or deprivation studies. These are experiments that manipulate the overall opportunities for any, or certain, types of play. Some sophisticated deprivation studies of this kind have been done with animals such as rats (Hole & Einon, 1984). In children, there are a number of play training studies that have experimentally enhanced opportunities, mainly for types of pretend play. We will review these in Chapter 9.

Interviews and questionnaires

Children themselves can be asked about their play activities. In general, interviews are more useful with older children. Nevertheless, even 3 and 4-year-olds can give some useful information. For example, Takhvar and Smith (1990) combined observations of children's object or construction play with short interviews afterwards asking children what they were doing. Quite often, a child making what looked like just a pile or tower of blocks would describe it in pretend terms, as for example a "prison" or "space tower." In other words, what might have been categorized simply as construction play might be re-categorized as pretend play after these interviews were conducted.

More commonly, adults involved with a child—usually parents or teachers—might be interviewed or given a questionnaire. For example, there are questionnaires about imaginative or pretend play disposition that a parent can fill in to indicate the extent of such play they have seen in their child (Liebermann, 1977).

Other sources

There are more indirect sources of information we can use. One possibility is to make toy inventories—lists of all the toys in a child's home. Of course, this does not mean that the child actually plays with these toys, but it does indicate the range of opportunities that the child has.

Where past historical periods are concerned, we cannot make direct observations, experiments, or interviews. Nevertheless we can learn something from various kinds of records. First are artifacts—toys made for children in earlier times. Orme (2002, pp. 166–176) describes toys used by children in medieval times, such as rattles, tops, and dolls. These are known from the objects themselves or from descriptions. For example, John Florio (1598) described paper windmills: "A piece of card or paper cut like a cross, and with a pin put in at the end of a stick, which running against the wind doth twirl about. Our English children call it a windmill" (cited in Orme, 2002, p. 168).

A second source is records made by adults of children playing. Some are in diaries and autobiographies; others are in paintings. Hanawalt (1993) uses a range of such sources from medieval times to describe how London children then "played ball and tag, ran races, played hoops, and imitated adult ceremonies such as royal entries, Masses, marriages, and the giants Gog and Magog" (p. 78). Breughel's painting of 1560 *Children's Games*, now in the Kunsthistorisches Museum in Vienna, is a very famous example of its kind. It shows not only many games, but also play with objects such as with dolls, hoops, spinning tops, stilts, barrels, and windmills, and physical play in the form of riding piggy-back, playing leapfrog, play-fighting, and climbing trees. Edward Snow (1997), in his book *Inside Breugel*, gives a most detailed account of what is going on in this painting, which includes 46 kinds of play or game engaged in by some 200 children and young people in the painting.

Linda Pollock examined parent-child relations from 1500 to 1900 in her book *Forgotten Children* (1983). She used letters, diaries, and autobiographies, as well as newspaper reports. Her section on play (pp. 236–239) reveals a variety of attitudes to play on the part of parents, but again shows that the types of play we have described were

common in earlier historical periods. For example John Dee (1527–1608) writes in his private diary, published in 1841, of "Arthur Dee and Mary Herbert, they being but 3 yere old the eldest, did make as it wer a shew of childish marriage, of calling ech other husband and wife" (cited in Pollock, p. 327); apparently an example of sociodramatic play.

Plan of the Book

In this chapter we have discussed what is meant by play, the main types of play, and the main methods of study. The next chapter reviews the history of the study of the topic of play from the late nineteenth century to recent times, and outlines some major theoretical perspectives. There then follow two chapters on play in animals, one descriptive, and one examining theories of why animals play. Moving on to human play, Dr Yumi Gosso, who completed her doctoral thesis on the Parakanã Indian people of Brazil, contributes a chapter on cross-cultural studies of play, including a section on play in the Parakanã, one of few surviving hunter-gatherer peoples in the world today.

The next four chapters focus on particular kinds of play among children. We will look in more detail at physical activity play (exercise play and rough-and-tumble play); object and construction play; and pretend and sociodramatic play. The great majority of the research on which these chapters are based is on western children. The last main chapter considers some practical applications of play in today's world: the role of adults in play, play in education, the debate about "war toys," the role of recess breaks, and play therapy for children under stress. In some short concluding comments I attempt to sum up some main themes from the material that we will review.

Further Reading

A book with a wide remit embodied in its title is T. G. Power (2000), *Play and Exploration in Children and Animals,* Mahwah, NJ: Erlbaum. For a review of time-sampling methods in observing behavior, including play behavior, see P. Martin and P. Bateson (1991), *Measuring Behavior: An Introductory Guide* (2nd edition), Cambridge: Cambridge University Press. J. S. Bruner, A. Jolly, and K. Sylva (Eds.) (1976), *Play: Its Role in Development and Evolution*, Harmondsworth, Penguin, reprints over 70 classic articles or extracts on play, from 1896 (Groos) up to the 1970s.