This study examines the earliest jokes produced by three children and investigates how these jokes contribute to a model of humor development. Subjects were three male infants, and data was collected through a diary record procedure kept by the children's parents. Data was collected on one child at age 13 months; data collection for the other two children occurred between the ages of 20 through 36 months. The parents recorded only those jokes that their children appeared to find funny. Jokes from two of the children are examined through the framework of McGhee's four developmental stages of humor. Analysis showed that these children appreciated incongruity as well as other kinds of surprises, such as surprising similarity or the fulfillment of expectations. Results also indicated that these children's humor may reflect greater cognitive capacities at younger ages than was formerly believed. Examples of children's jokes from this study are appended. (MM)
Young Children's Jokes: A Cognitive Developmental Perspective
Presented to Western States Communication Association
February 14, 1993
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Theorists generally agree that humor is a response to the perception of incongruity, a violation of expectancies, an element of surprise. Incongruity is the conflict between what is expected and what actually occurs, and it is responsible for the element of surprise in a joke. A joke becomes humorous to the recipient when the incongruity is made meaningful by resolving or explaining the discrepant elements (Schultz, 1976). In other words, to enjoy a joke, I have to "get it." Those of us who enjoy being with young children observe that they find many things to be funny. Some preschool children's jokes are not very funny to older children or adults, and many adult jokes are a complete dud with young children. Humor is viewed in the literature as a developmental process that reflects underlying cognitive changes. Following a review of the literature on children's humor, I have identified several interesting and unresolved questions that will provide the framework for this paper.

1. When does the onset of humor occur in child development, and what cognitive skills are pre-requisites?
2. What are the stages in the development of humor, and what is the relationship between the development of humor and cognition?

The literature reveals three different views about the onset of humor and its cognitive pre-requisites. Schultz (1976) proposed that humor begins at about 18 months, along with the advent of symbolic play. Symbolic play involves the ability to pretend, to apply familiar schemas symbolically to new, unfamiliar objects and events (Piaget, 1962). In Schultz's view, children younger than this age are able to perceive novelty, but not incongruity, because they are not yet able to form expectations about future events. Once they are capable of symbolic play, children become able to create and perceive incongruity as a violator of expectancies. Schultz suggested that children under the age of 7- to 8-years appreciate incongruity for its own sake and do not require a resolution to find something funny.

McGhee (1979), like Schultz, sees symbolic play capability as prerequisite to the onset of humor. Prior to the development of symbolic play, McGhee believes that when children encounter incongruity they attempt to modify their cognitive schemas to incorporate the newly qualities into their existing knowledge, a process he terms "reality assimilation." Once children begin to engage in imaginative symbolic play in the second year of life, they engage in "fantasy assimilation," in which new and incongruous objects and events are treated as if they matched the image of some other object or event, in other words make-believe. Incongruities are found to be humorous when they are seen as make-believe, the child is in a playful frame of mind, and the child fantasy-assimilates the event. McGhee disagrees with Schultz's idea that there is a stage at which children appreciate incongruities without resolutions; on the contrary, he contends that prior cognitive mastery, "a firmly established expectation of 'how things should be,' is a basic prerequisite for humor" (McGhee, 1979, p. 38).
A third view is that perception of incongruous events as humorous requires only a safe, playful context. Symbolic play capacity is not needed, but only an ability to form specific expectations and recognize violations of those expectations, an ability that develops by the age of 4- to 5-months (Pien & Rothbart, 1980). Young (seven-month old) infants smile and laugh at events that are discrepant from familiar schemas, e.g. the mother walking like a penguin or dangling a cloth from her mouth, and older (ten and twelve-month old) infants produce discrepant events, such as replacing the cloth back into their mother's mouths when it had been removed (Stroufe & Waters, 1976). From these data Pien & Rothbart argue that smiling and laughter at incongruous events indicate humor appreciation in young infants.

These three views about the onset of humor appreciation differ in their interpretations of what humor is, and of the degrees of cognitive development necessary for a young child to perceive an incongruous event as humorous. It is generally agreed that the types of incongruity found humorous depends upon stages in cognitive development. McGhee (1979) has proposed four fixed-sequence stages of humor development that correspond with cognitive skills described by Piaget (Table 1). At Stage 1, in the second year, the child treats one object as if it were another, manipulating objects and images with actions that are at odds with reality. Words may accompany the act; for example the child may say "bottle" while sucking on some other object; however overt physical activity is central to the creation of incongruities at this stage. For example, one of Piaget's children picked up a leaf and talked to it as if it were a telephone. Stage 2 emerges between two- and three-years, when the child inaccurately (but purposively) labels objects and events. Action is not a requirement. For example the child may call a dog "cat." At this stage the child may engage others in social humorous interaction, but McGhee claims that much toddler humor is self-generated because their confidence about the nature of objects and word labels is easily shaken; the only way for a toddler to be sure of the fantasy nature of any incongruity is to be the one who makes it up. Play signals are needed when incongruities are shared as humor; at the time of the misnaming of an object or event, play signals such as smiling or laughing tell the child that the incongruity is meant as a joke.

At about three-years the child enters a new stage of conceptual thought in which children realize that words refer to classes of things that have defining characteristics but may differ in other nonessential ways. Humor occurs when aspects are violated, for example a cat has two heads but no ears. At Stage 3, repetitious rhyming and creation of nonsense words begins, e.g. a shoe may be called "flue." Children begin to play with the sounds of words, as well as their meanings, e.g. "rhinoceropible" (McGhee, 1979, p. 129); they may playfully distort both language and nonlanguage sounds like they might distort aspects of meaning. In Stage 4, at the onset of concrete operational thought (age 7- to 8-years), children recognize that the meanings of words may be ambiguous, and they can appreciate linguistic ambiguity. Children in Stage 4 also appreciate jokes that are abstract and do not have a perceptual basis.

Most of the work on children's humor has been concerned with appreciation of humor, rather than its production. McGhee's model of humor development is primarily concerned with stages in what children find funny. In the remainder of
this paper, I will describe the earliest jokes produced by three children and examine how these jokes contribute toward a model of humor development.

The data was collected through a diary record procedure. Davis, at 13 months, is just beginning to talk. His mother collected his sample in the past several weeks, and as a follow-up, I observed Davis and mom at play. Jeffrey's jokes have been recorded by his father since last February's WSCA, when we got this panel together. Brian is my own child, and his jokes were recorded into his baby book by his doting psycholinguist mother. So, our data is limited to three children, and to the jokes that were recognized by their parents. The parents recorded only those jokes that their children appeared to find funny and excluded those cute things that were appreciated mainly by adults. It is not hard to recognize an intentional joke produced by a toddler, as children produce strong play signals to let their grown-ups know that they are joking... almost always, jokes are accompanied by raucous laughter. Jokes are provided in the Appendix.

At 13 months Davis is at the brink of linguistic expression, and he has not yet entered the stage of symbolic play. His nonverbal games may contribute to the question of whether or not young children are capable of perceiving incongruity and finding humor in unfulfilled expectations. The "Hide and Seek" and "Chase" games are ritualized forms of play with established rules: Davis hides or runs and his mom seeks or chases. In "Push-it-down," Davis enjoys a thrill when the gate topples over or the truck goes over the edge of the table. In these games the humor appears to be in the fulfillment of expectations, rather than in incongruity; that is, Davis expects to be found or caught or that the object will fall down, and he finds pleasure when the expectation is fulfilled. Two of the games are clearly social events, and Davis does engage in setting up incongruity for his mother; he creates a surprise for her by hiding or by letting her nearly catch him in the chase. Davis's first verbal jokes are repetition of sounds made by his mother. Davis has witnessed his mother drink thirstily and say "ah" [ˈhː]. At another time, he takes a swig from his bottle and says "?hː" [ˈhː]. Similarly, his mother says "Wow!" following a big sneeze. On another sneezing occasion, Davis copies the "Wow" and laughs. His laughter shows that this is humorous for him. While there is no obvious incongruity, Davis may recognize this as a new ritual; when we drink, we say "ah;" when we sneeze, we say "Wow!" Davis does not find humor in renaming of animals or objects (calling a cat a dog), but he does appreciate some nonverbal surprises. When his mother peeks her head through an opening in the wall or sucks Davis's pacifier, Davis laughs (and takes the pacifier away). In summary, incongruity does not seem to be a requirement for humor for this 13-month old, and if incongruity is a requirement for humor, we would conclude that he does not appreciate humor yet. On the other hand, Davis does appear to find some events funny, and his willingness to play "Chase" and "Push-it-down" over and over suggests that he is able to form specific expectations and recognize violations of them.

We will examine Jeffrey's and Brian's jokes through the framework of McGhee's four developmental stages. Their first jokes (at ages 20-21 months) are great examples of McGhee's Stage 1. Jeffrey makes fun of sleep, lying down in his bath, on the floor, in sand, and in his potty, saying "night-night in bath, night-night in potty, etc." Brian experiments with incongruous hats, such as wastebaskets and
his potty. (Won't he be disgusted as a teenager to discover baby photos with a potty on his head!).

Jeffrey's Joke #4 is a fine example of McGhee's stage 2, the mislabeling of objects and events. Jeffrey and his mom are reading a picture book and come to a picture of a giraffe. Jeffrey points at the picture and says "Woo-woo," which is his version of dog. His mom checks for play signals, and enters into the game: "That's not a dog, it's a horse!" Jeffrey then says, "No, its a giraffe."

McGhee's Stage 3 is exemplified by Brian's play with absurdities (Jokes #2 & 4). At 24 months he juxtaposes an action with an object that is silly, because of its key characteristics. Brian, brushing his teeth, and knowing he is not to swallow the toothpaste, says "Eat paste." He then goes on to be even more semantically absurd, pointing to his fishing pole and saying "Eat fish (ing pole)." Later, at age 3, he refines the game working from within a category to outside a category, becoming more absurd and trying to out-do his Mom in incongruity.

Brian: "I want carrot ice cream."
Mom: "I want spinach ice cream."
Brian: "I want chicken ice cream."
Mom: "I want roast beef ice cream."
Brian: "I want mud ice cream."

Jeffrey's rhymes in #4 ("do do, bo bo") and his Joke #7 could also be included in McGhee's Stage 3. In #7 Jeffrey invents a new word when he sees his breath in the cold air of Minnesota for the first time. "Powder mouth" shows his gleeful relating of new and old events to resolve the surprise of seeing his breath.

Brian's Joke #5 at 36 months provides an example of McGhee's Stage 4, the appreciation of ambiguity. Brian has just received a bath and is leaving the bathroom. From inside the bathroom, Mom says:

Mom: "Your clothes are just outside the door."
Brian (grinning): "No, they're not outside; they're right here."

Later, explaining his joke to his dad, Brian explained "I say 'outside the outside' not the inside." Brian is clearly playing with two meanings he has for "outside:" outside the house and outside the door. He made his playful interpretation clear by giving a play signal, grinning, and by offering an explanation.

While these jokes fit nicely into McGhee's developmental framework, there are some things wrong with his picture. First, Jeffrey and Brian produced some jokes that are not easy to classify or even to figure out what the incongruity might be. Consider Jeffrey's Joke #2. He uses a special intonation to get attention, and then repeats a phrase he has overheard, out of context.

"Mommy No pay! " (laughs)
"Daddy Oh my goodness!"

This is a verbal joke, not a mislabeling, not a made-up word or rhyme. For me as an adult, I find this joke not funny, because I can't resolve it. But for Jeffrey, it was clearly a very funny joke. It is similar to Davis's "ah" and "wow" jokes, repetitions of adult speech. Davis, however, produces his repetitions in a context similar to the original, while Jeffrey's are produced without a nonverbal context.

Brian's Joke #3 is also hard to classify. As background, you need to know that Brian's baby sitter has a son named "Little Milt," which Brian
pronounces /susi mut/. Brian comes to Mom to ask for milk. After receiving it, he says: "Milk, little Milt. Milk, little Milt."

/mut | susi mut | mut | susi mut/

It seems that Brian has just observed the phonological similarity between "milk" and "Milt." It is hard to see this joke as an incongruity; what Brian finds humorous is the lack of expected incongruity. I guess that when one expects an incongruity and instead finds similarity, that is a sort of incongruity!

There is a second problem with McGhee's picture. He describes the four stages as fixed in order, with some variation in the ages that each stage is achieved, but each stage corresponding with a stage in cognitive development. The Jeffrey and Brian data are not supportive of a fixed sequence or neat stages in development. While it is true that the Jeffrey and Brian jokes followed the order proposed by McGhee, the ages at which they appeared were close together: three stages in 5 months for Jeffrey and four stages in 16 months for Brian. Stages 1 and 2 appeared at about the predicted time for Jeffrey and Brian (Stage 1 at 20-21 months, Stage 2 at 24 months), stage 3 occurred at the same time as Stage 2 (24 months) and stage 4 was observed at age 3, four years before predicted. McGhee's stages are based on Piagetian observations about cognitive development that may underestimate the cognitive capabilities of preschoolers (Wellman, 1990).

In summary, these early data from three children show that they not only appreciate incongruity, but also may appreciate other kinds of surprises, such as surprising similarity or the fulfillment of expectations. Furthermore, their humor may reflect greater cognitive capacities at younger ages than was formerly believed.

REFERENCES

Table 1: McGhee's Developmental Stages in Humor*

**Pre-Humor:** Children are incapable of experiencing humor until they engage in symbolic play at about 18 months of age. They may laugh or smile in response to physical stimulation (e.g., tickling) or visual novelties (e.g., peek-a-boo or mother sucking a baby bottle). However, until children can engage in make-believe, they cannot appreciate incongruities as humorous, but instead try to incorporate new events into an expanding view of reality.

**Stage 1:** At the onset of symbolic play at about 18-months, the child treats one object as if it were another. Humor is created by creating in fantasy play a set of conditions that are at odds with reality. Actions are required. For example, a child picks up a leaf and talks to it as if it were a telephone.

**Stage 2:** Between 2- and 3- years, the child uses words to create incongruities by mislabeling objects or acts. For example, the child may call a dog "cat."

**Stage 3:** At about age 3, humor occurs when important characteristics of things are violated; for example, a cat has two heads but no ears. Children begin to play with the sounds of words; repetitious rhyming and creation of nonsense words begins, e.g. a shoe may be called "flue."

**Stage 4:** At the onset of concrete operational thought (age 7- to 8-years) children recognize that the meanings of words may be ambiguous and can appreciate linguistic ambiguity. Children also appreciate jokes that are abstract and do not have a perceptual basis.

Appendix
Some Examples of Young Children's Jokes

Davis at 13 months has just produced his first real words, about 5 words.

#1 Hide and Seek: Davis hides behind the curtains, his feet sticking out at the bottom. His mother pretends she cannot see him, but asks, "Where is Davis?" Davis waits until she finds him behind the curtains and then laughs uproariously.

#2 Chase Game: Davis runs away from his mother, inviting her to chase him with laughter and by turning back toward her. He hurries to the first landing of the steps and pauses until she is nearly there, then he laughs and continues up the steps to the top.

#3 Push-it-down: Davis laboriously lifts a child gate to vertical, then pushes it over, laughing as it crashes. During play with a car, he purposefully pushes it over the edge of a coffee table, laughing as it goes over the edge.

#4 Context: Davis has witnessed his mother drink thirstily and say "ah" [ʔh:]. At another time, he takes a swig from his bottle and says "ah" [ʔh:]. Then laughs.

Similarly, his mother says "Wow!" following a big sneeze. On another sneezing occasion, Davis copies the "Wow" and laughs.
Jeffrey

#1 21 mos.
Context: Jeffrey is making fun of "sleep," lying down in non-sleep contexts.
"Night-night in bath."
"Night-night on floor."
"Night-night in sand." (sandbox)
"Night-night in potty." (stretched out with head on potty chair)

#2 21 mos.
Context: Jeffrey appears to be playing with phrases overheard from adult discussion. He interrupts adult talk at a later time, with attention-getting intonation.

a. Following a discussion in which Mom talked about academics working for no pay:
"Mommy, no pay." (laughs)

b. "Daddy! Oh my goodness!"

#3 22 mos.
Context: When trimming Jeffrey's nails, his parent's say "Bing" for each nail as it is cut.
At a later time, Jeffrey throws his head back, falls to the ground and yells:
"Bing." (laughs)
He then invites his dad to play:
"Daddy Bing."

#4 24 mos.
Context: Mom and Jeffrey are "reading" a picture book together. They come to a picture of a giraffe.
Mom: (looks at Jeffrey): "That's not a dog...it's a horse."
Jeffrey (laughing): No...it's a giraffe.

#5 (24 mos.) Rhyming: "do do. bo bo." (laughs)

#6 25 mos.
Jeffrey has invented a game of "peek-a-boo." He covers one picture (a horse) with another, and says "Where horsie go?" He then pulls away the cover and laughs.

#7 25 mos.
Context: Visiting Minnesota, Jeffrey sees his breath in the cold air for the first time, and relates the new experience to an old one:
"Powder mouth."
Brian

#1  Context: Brian places objects (wastebasket, potty) on his head for hats. May be accompanied by announcement: "Hat." (laughs).

#2  Context: Brian begins with mild absurdity and moves to greater one.
"Eat paste." (toothpaste)
"Eat fish." (fishing pole)

#3  Background information: Brian's baby sitter has a son named "Little Milt," which Brian pronounces /susI mut/.
Context: Brian comes to Mom to ask for milk. After receiving it, " Milk, little Milt. Milk, little Milt.
/mut | susi mut | | mut | susi mut/ (laughs).

#4  Context: A variation on #2, Brian's absurdities begin within a category and then move outside the category, becoming more absurd. This is a capping game; trying to out-do a partner in incongruity.
Brian: "I want carrot ice cream."
Mom: "I want spinach ice cream."
Brian: "I want chicken ice cream."
Mom: "I want roast beef ice cream."
Brian: "I want mud ice cream."

#5  Context: Brian has just received a bath and is leaving the bathroom.
From inside the bathroom, Mom says:
Mom: "Your clothes are just outside the door."
Brian (grinning): "No, they're not outside (the house); they're right here."
Later, explaining his joke to his dad,
Brian: "I say 'outside the outside' not the inside."