JOURNAL OF NARRATIVE AND LIFE HISTORY, *4*(4), 331–352
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"Thunder Is When the Angels Are Upstairs Bowling": Narratives and Explanations at the Dinner Table

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The domain of narrative is often assumed to be the first extended discourse genre accessible to young children, and a natural mode for representing and remembering information. Ultimately, however, children must move beyond narrative to include other genres within their competency, such as explanation. Furthermore, narrative and explanation share a number of features that might lead one to expect more or less parallel development. We studied the occurrence of narrative and explanatory sequences of talk during mealtimes in 31 low-income families with preschool-aged children. Narrative and explanatory sequences constituted approximately equal percentages of the total talk, but explanatory sequences were much briefer and more frequent than narrative sequences. Equivalent measures of narrative and explanatory talk showed moderate correlations, suggesting that families that engaged in one type of discourse also engaged in the other; this suggestion was confirmed by the finding that a large proportion of explanatory utterance were also parts of narratives. As 3- and 4-year-olds, children participated more competently in narrative than in explanatory discourse, though they requested many explanations at all ages. *(Discourse Genres; Explanation; Development)*

In his book *Actual Minds, Possible Worlds,* Bruner (1986) posited two major modes of thinking: *paradigmatic,* which uses formal logical and scientific description and explanation; and *narrative,* which deals with intentions and action and the consequences of intentions and action. While the paradigmatic mode attempts to "transcend the particular by higher and higher reaching for abstraction" (p. 13), the narrative mode attempts to emphasize the particular

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and locate it in time and place. These two modes are played out in different sorts of discourse genres such as stories (for narrative thought) and arguments (for paradigmatic thought), and have different criteria for well-formedness.

The domain of narrative is often assumed to be the first extended discourse genre accessible to young children—an assumption reflected in the ubiquity of storytelling and storybook reading in interactions with children just starting to talk, as well as in the almost exclusive use of narrative in early literacy curricula (see Pappas, 1993a). Furthermore, narrative has been identified as a natural, untrained way of thinking and remembering, in contrast to paradigmatic or analytic thinking (Bruner, 1986). Does the ubiquitous use of narrative with young children reflect the fact that narratives are, in fact, the easiest genre for children to understand and to produce? If so, how do children move beyond narratives to participation in other extended discourse genres, such as explanation or argumentation?

Considerable research has been done on the development and display of narrative by Nelson and her colleagues, who looked at a variety of narrative genres (McCartney & Nelson, 1981; Nelson & Gruendel, 1986; Nelson & Seidman, 1984); by Peterson and McCabe (1983) and Bamberg (1987), who charted the linguistic resources children use in narrative; and by Slobin and collaborators (Berman & Slobin, 1994), who studied several different languages. On the other hand, rather sparse work has been done on the development of nonnarrative discourse genres. For example, relatively little attention has been paid to the development of explanatory discourse, with the exception of the descriptive, naturalistic work of Barbieri (in press; Barbieri, Colavita, & Scheuer, 1990) and Beals (1991, 1993). Some additional developmental work on explanation has focused entirely at the sentence level (e.g., on the use of terms like *because* and *so;* Bloom, Lahey, Hood, Lifter & Fiess, 1980; Donaldson, 1986; Hood, 1977; Hood & Bloom, 1979).

Narratives and explanations share a number of features that might lead one to expect more or less parallel development. Both are structured forms of extended discourse around a specific topic that require formulation of a general goal and control over interutterance cohesion markers. Both require the participants to talk about topics outside of the "here and now": objects and events in other places and times. Both forms occur naturally with considerable frequency, and are characterized by collaborative multiparty participation structures. Exposure to both discourse forms relates to early markers of school success, such as vocabulary, skill in giving formal definitions, and story comprehension (Beals & Smith, 1992; Beals & De Temple, 1993a). Furthermore, kindergarten-aged children show no greater difficulty remembering and retelling information first encountered in expository form than in narrative form in children's books (Pappas, 1993a).

The distinction between narrative and explanation is unclear. Some scholars have claimed that explanation is not a separate genre but a primary function

of narrative. For example, Kemper's work on narrative structure (1984) emphasized the causal (and intentional) relationships found in stories that people tell. According to Kemper, stories lay out events and actions in terms of the purposes, intentions, and feelings of the storyteller through the use of temporal and causal connectives. This view would imply that narratives would contain lots of causal and intentional explanations. Ochs, Taylor, Rudolph, and Smith (1992) studied the use of narrative as a form of problem solving in family mealtimes. Family members co-narrate stories, and in the process use and polish the social, cognitive, and linguistic skills that underlie scientific and other scholarly discourse. This collaboration around narrative supports theory building among speakers, not unlike the work done by scientists. Even more extreme views exist; some consider *all* forms of expression to be a type of narrative (e.g., Gallas, 1993; Hopkins, 1993).

Further complexity is introduced by the recognition that narrative itself is not a single genre but a family of genres. Heath (1983) distinguished four narrative genres: accounts, recounts, eventcasts, and stories. Hicks (1993) argued that narrative must be seen as a set of social discourses that are linked to activity structures; the implication of this view is that there are *no* universal characteristics common to all narrative forms. Similarly, Barbieri (in press; Barbieri, Colavita, & Scheuer, 1990) and Beals (1991, 1993) have identified numerous types of explanatory discourse that vary by form and function in everyday conversation.

What is the relation between use of narrative and explanation? Are they really two separate kinds of discourse? Do these two types of talk follow similar developmental trajectories? If explanation is a crucial element of narrative, then explanation must develop prior to or concurrent with narrative. However, if narrative is the more natural or accessible way of representing information as Bruner (1986) claimed, then children should have more difficulty mastering the rules governing good explanations than those governing good narratives. One might also expect to find more parental attention focused on modeling or scaffolding explanatory talk, and more explicit instruction devoted to explanatory talk in classrooms.

Aside from the arguments of which form is easier or more accessible to children is the issue of general discourse development. Because of the features that narrative and explanation share, we might expect to find some evidence of development of some general discourse ability.

For this study, we have chosen to look at naturally occurring discourse as our source of data, rather than attempt to elicit specific forms. This gives us the opportunity to see how, in everyday conversations, preschool-aged children and their families engage in the use of explanatory and narrative talk. In this article, we have two aims. First, we present some basic descriptive data on the natural occurrence of narrative and explanatory talk during family mealtimes and on the relative frequency with which young children are exposed to

or involved in these types of talk (Study 1). We then compare the participation patterns that characterize narrative and explanatory talk, focusing particularly on children's involvement in these two genres (Study 2). We examine the frequency with which each genre occurs, the relations between the genres, and the patterns of participation by mothers and children within them in order to demonstrate some of the complexities of the development of narrative and explanation.

METHODS

The data analyzed for this study were collected in the context of the Home-School Study of Language and Literacy Development (Snow & Dickinson, 1987; Snow, Dickinson, & Tabors, 1989), a longitudinal study of children from low-income families who are being followed from the age of three through their early elementary school years. The aim of the study is to identify the kinds of home and school language environments that predict later literacy development and school success. A major hypothesis of the study is that extended discourse skills—that is, skills at tasks such as telling a story or giving an explanation—grow out of experience participating in co-constructed narratives and explanations at an early age.

Subjects

Criteria for inclusion of families in the study included low income (as determined by eligibility for Head Start preschool placement), attendance by the target child at a preschool program by age four, and exclusive use of English in the home. Sixty-four percent (n = 27) of the children in the first cohort of 42 were Caucasian, and the remaining 36% percent were African American (14) or Hispanic (1). The families represented a wide range of constellations; about half were single-parent families, and the target children typically had older and/or younger siblings.

Subjects were visited at home once a year from ages 3 to 5 years to collect samples of conversation between mother and child. At the end of the visit, the experimenter left a tape recorder and a blank tape with the mother and requested that she record what she considered to be a typical mealtime where the whole family would be present. Approximately 70% of these tapes were returned to the researchers.

For this study, we examined the mealtime transcripts obtained from three home visits when the children were 3, 4, and 5 years old. This corpus includes mealtimes from 31 families with 32 target children (one family had twins who were both subjects of our study). After the first home visit, 27 mealtime tapes were returned. Another 27 were returned after the second home visit, and 21 tapes were returned after the third visit. Eighteen families returned all three tapes, and another 8 families returned two, so that we had developmental data on 27 children (one family returning all three tapes was the family with twins).

Transcription, Coding, and Analysis

All mealtime conversations were transcribed into computer files following the guidelines of Codes for the Human Analysis of Transcripts conventions for analysis by the Child Language Analysis (CLAN) software available through the Child Language Data Exchange System (CHILDES; MacWhinney & Snow, 1990).

Table 1 presents a summary of the length of the mealtime transcripts. The average length of the mealtimes was fairly stable over time in terms of number of utterances and minutes, generally around 400 utterances and 20 min long. The mean length of turn—a rough measure of complexity of all participants' contributions as well as their ability to hold the floor—also remained at approximately 6 words per turn over this period.

Family members did not contribute to conversations equally (see Table 2). Mothers were the biggest contributors, accounting for about 40% of all talk on average, followed by the target children, who accounted for approximately 30% of the talk. Fathers, when present, were relatively infrequent speakers on average.

We were particularly interested in two genres of discourse that occurred in the mealtime conversations: narrative and explanation. A *narrative* was defined by the presence of at least two temporally sequences events (Labov, 1972), either past or future (present tense eventcasts were excluded). The narrative began where the topic of the narrative was introduced and ended when the topic changed. Generally, narrative talk in these conversations consisted of family members recounting the events in which they par-

TABLE 1
Summary of Mean Mealtime Lengths (Ranges)

	Age		
Variable	*3*[a]	*4*[a]	*5*[b]
Number of utterances	439.3 (67–909)	410.1 (23–903)	397.2 (17–675)
Time (minutes)	19.6 (2.7–47.4)	20.9 (1.6–46.6)	17.8 (2.9–29.5)
Words per turn (MLT)[c]	6.06 (3.32–8.54)	6.30 (2.84–11.30)	6.13 (4.54–9.90)

[a] n = 27. [b] n = 21. [c] Mean length of turn.

TABLE 2
Contributions to Mealtime Conversations by Participants

Child's Age (Years)	*Speaker*	*n*	*Percentage of Utterances*		
			Mean	*Minimum*	*Maximum*
3	Mother	27	42.9	15.9	70.5
	Child	28	31.4	12.8	53.2
	Father	14	13.8	0.9	36.5
	Others[a]	—	11.9	—	—
4	Mother	27	43.4	16.0	74.9
	Child	28	33.4	16.2	62.1
	Father	11	16.9	3.6	24.3
	Others[a]	—	6.3	—	—
5	Mother	21	39.7	5.9	64.0
	Child	22	31.6	7.3	47.1
	Father	9	11.4	2.9	24.5
	Others[a]	—	17.3	—	—

[a]All other participants combined.

ticipated (see Example 1) and making plans for future activities in their lives (see Example 2).

Example 1: David, age 4

Mother: so did you tell Daddy about the little girl on the slide at the playground?
David: yeah.
Father: yes he did.
Father: and I said to him "geez that was an excellent safety move that you made there."
Father: put the brakes on huh? before you got to the end.
Mother: she was just a little tiny kid and said "David wait wait!" huh?
David: but they stopped.
Mother: yeah that's right you didn't stop but you grabbed the sides of slide so you wouldn't go.
Mother: she was just a tiny kid and she wasn't even aware or anything.
Father: mmhm.
Mother: she was just barely able to walk huh?

Example 2: Emily, age 3

Mother: guys hurry up.
Mother: we got to go soon.

Brother: where?
Brother: what time?
Mother: I have to leave in twenty minutes.
Emily: where?
Mother: and I have to take a shower yet.
Mother: we're going to church!
Brother: twenty minutes?
Mother: uhhum.
Mother: hurry up.
Brother: I don't think we're going to make it Mom.
Mother: well hurry up!

Explanatory talk was defined as talk that made explicit some logical connection between objects, events, concepts, or conclusions, or a request for such a connection. Specifically, nine types of explanations were defined (Beals, 1993). These are listed below with examples:

1. Explanations of intentions behind actions

Mother: what's the spoon for?
Zenia: huh?
Mother: sherbet? pineapples?

2. Explanations of intentions behind requests or commands

Mother: I said stop the banging.
Mother: that isn't to be played with.
Mother: it's to eat with.

3. Explanations of intentions behind questions or statements

Mother: I told you you should have stuck with the leftovers.
Mother: they're tastier today than they were yesterday huh?

4. Explanations of internal states

Mother: are you afraid to dunk?
Diane: no.
Mother: why?
Diane: because I'm a big girl.
Mother: oh you're a big girl.

5. Causal explanations

Kevin: sure have a big belly ache.
Mother: you drank your milk too quick?
Kevin: no.
Kevin: I think I ate [/] had too much . . .
Kevin: I think I ate it too fast.
Mother: you ate your favorite meal too fast?
Kevin: yeah!

6. Definitions and descriptions

Kurt: what's your highness mean?
Kurt: huh?
Mother: somebody who's really really important.
Mother: a queen and a princess or something.
Kurt: or . . .
Mother: or a king.
Mother: I think it's a king.

7. Evidential explanations

Karin: Sally had gym today.
Mother: Sally had gym?
Karin: uhhuh.
Karin: (be)cause I saw her coming out of gym.
Mother: oh did you?
Karin: mmhm.

8. Procedural explanations

Mother: you add a little water and you shake it up.
Conrad: is that how you make it Mommy [/] that's how you make it?
Mother: that's how you get it to go when it's all stuck to the sides.

9. Explanations of the consequences of one's actions

Mother: I said if you wanted to stay in the kitchen you had to remain quiet.
Brother: okay okay! (he leaves the room)

Each transcript was coded for the presence of segments of narrative talk and segments of explanatory talk.[1] The GEM program of CLAN (MacWhinney, 1991) was used to extract narrative and explanatory segments for further analysis.

STUDY 1

The purpose of Study 1 was to describe the frequency of explanatory and narrative talk, the shape of explanatory and narrative exchanges, and the ways that explanatory and narrative talk relate to each other within mealtime conversations.

Frequency of Explanatory and Narrative Talk

Table 3 presents average proportions of talk from mealtimes found in each discourse type, the number of segments of each discourse type, the mean number of total utterances within each category, and the average length in utterances of each segment (number of utterances over number of segments). It is important to note that, except when the target children were 4 years old, families tended to engage in as much explanatory talk as narrative talk, suggesting that both forms are of equivalent interest and import to these families.

Both the number of utterances in the segments of narrative talk and the percentage of narrative talk (number of narrative utterances divided by the number of utterances in the whole mealtime) decreased between ages 3 and 4, $t(22) = 2.39, p < .026$ for utterances, $t(22) = 2.68, p < .034$ (t tests are used throughout rather than analyses of variances as only 18 families returned all three tapes). However, both of these measures rebounded at age 5 back to their age 3 levels (although none of these changes was significant).

The drop in number of narratives, narrative utterances, and proportion of narrative talk, and subsequent rebound to earlier levels at age 5 is an interesting turn of events. It is not clear why this drop occurred. One possible explanation for this decline and recovery is that mothers requested narratives less frequently when their children were 4 years old, and hence these children produced fewer narrative utterances. Another explanation is that children at

[1] In order to test the reliability of explanatory segment identification rules, 15 (20%) of the transcripts were independently coded for presence of explanatory talk by two raters. Using Cohen's kappa statistic, interrater reliability on whether or not each utterance was part of an explanatory segment was computed. Reliability was in the substantial-agreement range (κ = .741). Reliability was established for narrative segments with a somewhat simpler procedure. Two raters independently identified a total of 96 segments of narrative talk in 22 transcripts (30%), of which they agreed on 91, for an interrater agreement of 94.7%.

TABLE 3
Frequency and Length of Explanatory and Narrative Segments for Each Age Group

	Age					
	3		4		5	
Variable	n	M	n	M	n	M
Percentage of segments						
Explanatory	27	17.3	27	15.3	21	12.5
Narrative	27	15.4	27	8.6	21	19.3
Number of segments						
Explanatory	27	16.9	27	15.0	21	13.9
Narrative	27	3.85	27	3.23	21	4.10
Number of utterances						
Explanatory	27	78.4	27	64.0	21	53.4
Narrative	27	72.1	27	40.0	21	74.1
Length in utterances						
Explanatory	27	4.69	26	4.12	21	3.60
Narrative	23	17.7	21	12.7	21	15.8

age 4 seemed to lose interest in performing personal event stories. In the age-3 narratives, mothers often had children retell an event to no particular audience. At age 4, it appears that these children were less interested in rehashing an event that they knew the audience (the mother) already knew. It is also possible that the drop at age 4 was simply an artifact of our modest sample size.

It is also interesting to note that although the number of explanations was much greater, $t(26) = 6.06, p < .001$ for age 3, $t(26) = 18.37, p < .001$ for age 4, $t(20) = 6.52, p < .001$ for age 5, these segments are much shorter than narratives, $t(26) = 6.08, p < .001$ for age 3, $t(26) = 4.66, p < .001$ for age 4, $t(20) = 6.83, p < .001$ for age 5. These differences are indicative of the difference in structure between the two discourse types. Explanations tended to be brief interchanges, whereas narratives consisted of more extended conversations, occurring less frequently than explanations.

The decline in amount of narrative talk at age 4 resulted in differences between the amount of explanatory talk (which remains the same) and the amount of narrative talk at age 4. There were more explanatory utterances by all speakers as compared to narrative, $t(26) = 3.31, p < .003$, and a larger proportion of explanatory talk as compared to narrative talk, $t(26) = 4.26, p < .001$, at age 4.

The use of these two genres in mealtime conversations was not independent. There were many correlations between equivalent measures of the different types at the same age. Table 4 displays some of the more notable correlations. There was a pattern of positive correlations between equivalent measures in the two genres. This suggests that there may be some similarities in emphasis or

TABLE 4
Correlations Between Equivalent Measures of Narrative and Explanatory Talk at the Same Age

	Age and p Value					
Comparison	3	p	4	p	5	p
Proportion of talk in segments	—	—	.499	.008	—	—
Number of segments	.679	.001	.453	.018	—	—
Number of discourse utterances	.643	.001	.614	.001	—	—
Average length of segment	.454	.029	—	—	.494	.023
Proportion of talk within segment × Child	.916	.001	.576	.005	.713	.001
Child's MLT within segments	.657	.001	—	—	.754	.001
Mother's MLT within segments	—	—	.495	.023	—	—

Note. MLT = mean length of turn.

style within families in the use of the two genres. Families that do a lot of one kind of talk at mealtimes tend to do a lot of the other kind as well.

The most striking correlations were found between the proportion of each type of talk for the target children. Children who were responsible for a large proportion of narrative talk within the family tended to contribute a large proportion of explanatory talk as well, and vice versa. These strong associations indicate that there are many similarities in the ability to narrate and the ability to explain.

Overlap Between Narrative and Explanation

In this corpus of mealtime conversations, it is not at all unusual to find talk that is classified as both explanatory and narrative. Speakers often embed an explanation in a narrative or embed a narrative in an explanation, as in the following conversation between Brad, his mother, grandmother, and grandfather. The discussion begins with plans to go to the "fish store" when the problem of a thunderstorm comes up. Several explanations are given for the cause of thunder, including angels bowling, Mommy vacuuming, and, more scientifically, "energy in the clouds." Then Brad narrates an event about a thunderstorm from his own past (*"xxx"* = unintelligible speech).

Example 3: Brad, age 3

Brad: I want (to) go to the fish store.
Mother: well you can't.
Mother: it's raining.
Brad: did you see the fish man go home?
Brad: I wan(t) (to) go to the fish store.

Mother: I don't know.
Mother: I don't know what time they close.
Mother: maybe we could put on our rain coats.
Brad: do you got a rain coat?
Mother: no but I'll wear something.
Brad: Ma.
Grandma: I'll let Mommy use my umbrella.
Brad: no.
Brad: if [/] if she has . . . (thunder cracks)
Grandma: mmm.
Brad: thunder.
Mother: thunder.
Grandma: mmm.
Brad: we can [/] we can run to the fish store.
Brad: then we can run back home with our feet like [/] like [/] like [/] like I always do?
Brad: and [/] and so [/] so the thunder won't get us right?
Mother: right.
Grandma: you know what the thunder is?
Brad: yeah.
Brad: thunder and lightning.
Grandma: yeah.
Grandma: and the thunder is when uh the angels are upstairs bowling.
Grandma: and that's one of them just got a spare.
Mother: Brad should get out his Berenstain Bear almanac and let Ma read it and that'll tell her what thunder is huh?
Grandma: mmhm.
Mother: tells [/] all about thunder and . . .
Grandpa: that's the energy.
Grandma: why should [/] why should he be brought up on a different story than you people were?
Brad: because [/] that's because xxx Mommy vacuuming it.
Grandpa: that's the energy huh?
Grandpa: thunder is caused by energy in the clouds.
Brad: yeah [/] yeah but [/] but one day I was sleeping in my bed for [/] for a long long time and thunder and lightning came from outside and I was trying to (sneezes).
Mother: oh bless you.
Brad: and I was trying to find something that was yellow outside in the dark all by itself.
Brad: and it came out.

Brad: and it was thunder and lightning and I hided from it.
Grandma: hmm.
Mother: hmm.
Grandpa: and you hided from it?
Brad: yeah.
Grandpa: where'd you hide?
Grandpa: under your blankets?
Brad: no under my covers.
Grandpa: under your covers?
Grandma: are you gon (t)a eat?
Brad: like [/] like [/] like when I was sleeping and I was xxx.
Grandpa: do you always pull the covers up over your head?
Grandpa: yeah?

This transcript represents a good example of the ways that the two genres interact with each other in everyday conversation. Narrative seems predominant in the planning of the trip to the store, then yields to explanation in describing possible sources of thunder, then takes over again.

Table 5 displays the average number of utterances per transcript that were narrative, explanatory, and in overlapping segments.

Approximately 10% of all utterances in the conversations were classified as both narrative and explanatory in nature at ages 3 and 4.[2] Interestingly, at age 4, with the drop in number of narrative utterances overall, almost all of the narrative utterances (94%, 37.7 of 40 on average) were also considered explanatory in nature, compared to 59% (37.7 of 64 on average) of the explanatory utterances that were also found in narrative talk. As we mentioned earlier,

TABLE 5
Average Number of Utterances per Transcript in Each Genre

	Age	
Genre	*3*	*4*
Narrative	72.1	40.0
Explanation	78.4	64.0
Overlap	48.9	37.7
Full transcript	439.3	410.1

[2]Overlap data was not available for the age-5 mealtimes at the time of publication. We suspect that the percentage of overlapped utterances at age 5 will be closer to the age 3 levels, due to the rebound in amount of narrative talk after the age-4 mealtimes. We anticipate only small changes, as numerous other analyses have uncovered few significant differences across ages in discourse measures in mealtimes.

TABLE 6
Percentages of Explanatory Categories Within Full Transcript and Within Narrative (Ages 3 and 4 Combined)

Explanation Type	*Full Transcript*	*Within Narrative*
Intentional/action	26	37
Intentional/command	23	14
Causal	18	18
Internal states	13	11
Definitional/descriptive	7	11

many narrative researchers take the view that narratives serve an explanatory function, informing the listener of the causes of events and the intentions behind people's actions. The large amount of overlap found here would support the contention that narrative and explanation are not mutually exclusive genres.

We analyzed the mealtime narratives for the type of explanations that occurred within them (see Table 6). Intentional explanations of actions accounted for one quarter of mealtime explanations overall, but within narratives they were even more pervasive: they accounted for more than one third of the explanations. This confirms Kemper's (1984) and Bruner's (1986) assertions that one of the major functions of narrative is dealing with human intention. Although intentional explanations of commands were very frequent in overall mealtime talk, there are relatively few of these explanations within narrative. This is not surprising, because we would expect there to be fewer commands within narrative. Causal- and internal-state explanations occurred at fairly equivalent proportions both within narratives and in the full transcripts. There was a somewhat larger proportion of definitional/descriptive explanations in narratives, perhaps reflecting the need to provide setting or orientation material to the listener. It appears that the two genres may serve similar functions in conversations at least some of the time.

STUDY 2

So far we have focused mainly on the overall shape and function of explanatory and narrative talk. In Study 2, we examine patterns of participation in narrative and explanatory talk. In particular, we look at children's participation in and contribution to the accomplishment of explanatory and narrative exchanges at ages 3, 4, and 5. These analyses are intended to explore potential developmental differences between the two genres.

Participation by Family Members in Narrative and Explanation

A basic question is whether children participate as fully in explanatory talk—which is presumably more cognitively challenging—as they do in narrative talk during family conversations. Table 7 presents results in which the child's contribution to the narrative and explanatory talk is differentiated from that of other family members.

Mothers' explanatory utterances tended to be quite long. The average turn length is between 10 and 14 words, indicating that explanations require fairly complex talk. There is a significant difference between the mother's average turn length when the child is 3 years old as compared to the turn length when the child is 5, $t(18) = 2.32$, $p < .032$. Mothers appeared to increase the complexity of their talk in explanations as the child gets older. There is not a comparable significant change in mother's mean length of turn over time in narrative talk.

TABLE 7
Mother's and Children's Participation in Narrative and Explanatory Talk at Mealtimes

	Age					
	3		*4*		*5*	
Type of Talk	*n*	*M*	*n*	*M*	*n*	*M*
Explanatory						
Mother						
Utterances	27	34.1	27	31.2	20	25.9
MLT	27	10.65	27	11.73	20	13.38[c]
Percentage of explanatory talk	27	47.3	26	47.0	20	49.0
Child						
Utterances	28	21.0	28	19.2	21	14.5
MLT	27	5.23	26	4.95	21	6.73[bc]
Percentage of Explanatory talk	28	27.0	28	28.7	20	26.7
Narrative Talk						
Mother						
Utterances	27	23.7	27	17.7	21	28.6
MLT	20	9.78	20	16.07	21	8.13
Percentage of Narrative Talk	23	40.0	21	45.9	21	42.5
Child						
Utterances	28	22.9	28	12.4[a]	22	23.8
MLT	22	6.36	20	6.67	22	7.09
Percentage of Narrative Talk	24	27.5	22	30.3	21	33.6

Note. MLT = mean length of turn.
[a]Significant difference between ages 3 and 4.
[b]Significant difference between ages 4 and 5.
[c]Significant difference between ages 3 and 5.

One striking finding in Table 7 is the growth in the child's mean length of turn in explanatory talk between age 4 and 5. Children used short, simple utterances of about five words per turn in explanatory talk at ages 3 and 4. There was a sizeable jump to almost seven words per turn at age 5, $t(19) = 3.52$, $p < .002$ for age 3 to age 5, $t(17) = 3.27$, $p < .005$ for age 4 to age 5. The child's average turn length in narrative, which was on average six-and-a-half to seven words per turn, showed no growth over time. It appears that explanatory talk was more difficult for 3- and 4-year-olds and they therefore needed to keep their contributions simple. In narrative, however, they were capable of longer, more complex turns at these ages.

Conversational Moves Within Explanatory and Narrative Talk

In order to examine the roles that mothers and children played, each utterance in segments of explanatory talk and narrative talk was coded for function within the explanatory or narrative sequence. Specifically, utterances were coded as to whether the speaker was giving a part of an explanation or narrative, or requesting an explanation or narrative.[3] Table 8 presents the frequencies of each category for mothers and children.

In narrative talk we see that, overall, children and mothers produced roughly equivalent numbers of narrative utterances; although at age 3 children produced more than mothers, at ages 4 and 5 they produced slightly fewer. This contrasts with explanatory talk, in which mothers gave two to three times as many explanatory utterances as children at all ages. The converse is true of requests: Mothers requested far more narratives than did children, whereas mothers and children requested explanations at a fairly similar rate. It appears that narratives tended to be initiated by the mother in her attempt to assist the child in getting a story told or a plan made. Although mothers made many requests for narrative utterances, they contributed quite a few utterances to narratives as well. In explanatory talk, mothers did most of the explaining, but they were not the only ones involved in initiating explanations. Children sought explanations for things happening at the table or somewhere else in their lives.

Another important finding is that children asked for more explanations than narratives in the average mealtime conversation. This challenges the view that narrative is the prior, or more basic, genre. If children are more attuned to narrative, why would they seek so many explanations?

[3]Each utterance in all segments of explanatory talk was coded for move category in 15 transcripts (20%) by two coders. Cohen's kappa was .750 for explanatory move. Each utterance in all segments of narrative talk was coded for move category in 8 transcripts (10%) by two coders, with a resulting kappa of .664 for narrative move. Both of these results are considered to be in the substantial-agreement range.

TABLE 8
Mean Frequencies of Giving and Requesting Explanations and Narratives

	Age					
	3		*4*		*5*	
Utterance	*Child*	*Mother*	*Child*	*Mother*	*Child*	*Mother*
n	28	27	28	27	22	21
Narrative						
GN	13.46	10.74	8.42	10.81	12.77	14.29
RN	0.57	2.41	0.68	1.59	0.68	3.42
Explanatory						
GX	5.64	14.78	5.28	14.63	5.27	11.14
RX	2.42	2.14	2.89	3.00	1.32	2.23

Notes. GN = giving narrative, RN = requesting narrative, GX = giving an explanation, RX = requesting an explanation.

Intergenre Relations Over Time

In order to examine developmental links between the two genres, we performed a correlational analysis between narrative and explanatory talk measures over time. Positive correlations over time between explanatory talk and narrative talk measures (see Table 9) mainly reflected relations between narrative talk at age 3 and explanatory talk at age 4, and between explanatory talk at age 3 and narrative talk at age 5. Again, we see, as we did in Table 4, that there is a pattern of correlations between the amount and proportion of both types of discourse, length of the segments, and the length of turns by participants. It seems that families that produce a lot of narrative talk when their children are 3 shift to being enthusiastic explainers a year later. On the other hand, children who engaged in explanatory talk relatively frequently at age 3, and who produced relatively complex explanatory talk at 3, did better in narratives 2 years later. And children who engaged in complex narrative talk at age 3 were good explainers 2 years later. The same children were good explainers and narrators over time. These findings, together with the within-age correlations reported previously, suggest that explanatory and narrative talk draw upon some similar underlying skills.

DISCUSSION

We have presented evidence that both supports and contradicts the view of narrative as the earliest and/or easiest genre of discourse. On the supporting side, we found in Study 1 that families engaged in similar proportions of

TABLE 9
Significant Correlations Between Equivalent Measures of Different Genres Over Time

Genre Correlation	*r*	*p*
Explanatory talk at age 4 × narrative talk at age 3		
Proportion of talk in segments	.496	.008
Number of discourse utterances	.439	.036
Average length of segment	.510	.022
Explanatory talk at age 3 × narrative talk at age 5		
Proportion of talk within segments by child	.747	.001
Mother's MLT within segments	.467	.038
Child's MLT within segments	.816	.001
Explanatory talk at age 5 × narrative talk at age 3		
Child's MLT within segments	.488	.047

Note. MLT = mean length of turn.

explanatory and narrative talk, indicating some parity of importance to the family conversations. We found numerous correlations between corresponding measures of narrative and explanation. We also found that explanations were often embedded in narratives and vice versa. It appears that the two genres frequently converge in everyday conversation.

Despite the similarities and correlations we found in measures of the two genres, we found that the shapes of the two types of exchanges were quite different. Narratives tended to be less frequent but longer in number of utterances, whereas explanations were more frequent and brief. Also, in the examination of participation patterns of mothers and children in Study 2, we found that children had shorter turns in explanatory talk than in narrative talk at ages 3 and 4, suggesting that they were less able to hold the floor and use complex language in explanations before the age of 5. And although children were very active in giving narratives (as active as their mothers), they gave only half as many explanations. Children requested explanations as frequently as their mothers, suggesting that they were very involved in trying to figure out their world through the explanations of others. They also requested far more explanations than they did narratives.

The large number of correlations between explanatory and narrative talk suggests that children develop some general discourse ability or abilities that involve extending talk around a topic and talking of things outside the immediate context. These relations may be confounded by the fact that they occur in the same setting; for example, in analyzing other data from these same children, Beals and De Temple (1993b) found that there is no pattern of correlations between explanatory talk occurring during mealtimes and explanatory talk in book-reading situations. However, both of these kinds of explanatory talk (in mealtimes and in book-readings) have been found to be associated with another kind of extended discourse between these same mothers and children—namely, science-process talk elicited by the presence of a magnet (Snow & Kurland, in press). Furthermore, mealtime explanatory talk was negatively correlated with the tendency to simply name objects during magnet play (instead of engaging in extended discourse). The ability to talk about a topic in more elaborated and complex ways is an ability that crosses situations.

We found few developmental changes in the participation patterns, generally in measures of explanatory talk between ages 3 and 5. Several of our measures indicated that children did not take a larger share of the discourse talk as they got older, but they may have been contributing in more sophisticated ways that our analyses did not reflect. In a more fine-grained analysis, we might expect to see changes over time in the structure of the conversations. It is conceivable that children take on more of the responsibility for providing information while explaining or narrating as they get older, with mothers progressively withdrawing their support or "upping the ante" (Ninio & Bruner, 1978) as the child gains more experience. Hence, we would expect that change might occur in the *kinds* of questions the mother asks (e.g., open-ended vs. yes–no, questions of detail vs. questions about relations among events, objects, or concepts), how often she has to ask them, what kind of information the child provides (relations among events, objects, or concepts vs. details), and how much information the child provides spontaneously. All of this assumes that the conversational structure of discourse is a support provided by adults for the acquisition of discourse genres.

CONCLUSION

In the study of discourse, *genre* is a term that encompasses the notion that talk and text can take on different purposes, contents, and structures. People talk or write about different topics in different ways to make their point. An important issue in studying the development of discourse abilities, then, is figuring out how children learn how and when to use different genres.

Hicks (1993) pointed out that narrative is not a single kind of discourse but "a family of discourses" (p. 127). The same can be said of explanation; here we have presented a number of different types of explanation. Discourse genres do not fall neatly into separate categories. Each speech situation provides new constraints and opportunities that inform the choices that speakers make in producing extended discourse. We have presented a rather complex set of results in comparing narrative and explanation in one setting. One important finding is that the distinction between narrative and explanation is too narrow; there are many kinds of narrative and many kinds of explanation, and these overlap and interact in messy everyday conversations between people. Reducing all forms of expression to one category—narrative—does not help us

understand how it is that children attain communicative competence with many different kinds of talk.

If our interest is in children's participation in extended discourse as a precursor for literacy (and ours is), then the emphasis on narrative may be misplaced. For example, we have seen here that the children request more explanations than narratives, suggesting greater interest in explanation. Newkirk (1989) analyzed the emergent writings of young children and demonstrated that early written forms are often expositions, explanations, lists, and other nonnarrative forms. And Pappas (1991a, 1991b, 1993a) has shown that kindergartners learn as much from informative texts as they do from narrative texts, and that they typically prefer informative books (1993b) over narrative. Cognitive developmentalists also note that narrative may be only one of a wide array of "entry points" (Gardner, 1993, p. 184) to literacy learning (Gardner, 1983, 1991). Children need to be facile in their use of a number of discourse genres in order to be considered literate. Although scholars such as Bruner believe that narrative is primary, we would argue that young children are as capable of and interested in understanding the world through other sorts of genres.

ACKNOWLEDGMENTS

The Home-School Study received generous funding from the Ford Foundation and the Spencer Foundation.

We express our appreciation to David Dickinson, Patton Tabors, Kendra Winner, Brenda Kurland, Andrea Riezman, and all the collaborators on the Home-School Study of Language and Literacy Development.

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JOURNAL OF NARRATIVE AND LIFE HISTORY, *4*(4), 353–365
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Case Studies of Exceptional People: What Can They Teach Us?

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This article describes the use of the case study method for the investigation of exceptional moral commitment. William Damon and I used the case study method in this research because we were interested in sustained, long-term moral commitment and in the transformation of moral goals over time within the context of life histories, social relationships, and other influences. The study yielded in-depth life history interviews with 23 people who were selected for having worked for many years to address such issues as civil rights, poverty, and peace. Case material was used to illustrate and flesh out a theoretical account of a developmental process called *the transformation of goals through social influence.* The use of 23 diverse cases also allowed us to identify common characteristics that cut across the interviews. The three main themes that emerged from the case material were certainty, positivity, and unity of self and moral goals. *(Psychology; Human Development; Case Study)*

I describe in this article one use of the case study method for a very particular purpose: the investigation of exceptional moral commitment. The aim of the study, conducted by Bill Damon and me, was to learn more about the nature, development, and expression of this kind of exceptional commitment (Colby & Damon, 1992). The study illustrates one approach to the use of case study material. I discuss the reasons why we chose this method as the most appropriate one for our research questions, what we were able to learn from it, and what its limitations have been.

I use the term *case study method* to refer to investigations in which an attempt is made to understand many aspects of the person's life in a holistic manner and over time. Due primarily to the intensive nature of the focus on individuals, the sample size is typically quite small, even as small as one person in some cases. Logically, however, the sample size need not be small as long

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