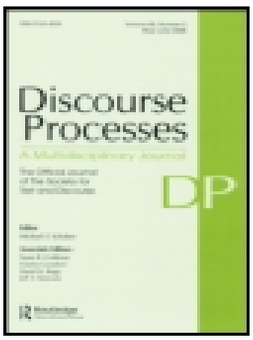

Discourse Processes

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Children's use of discourse markers in disputes: Form-function relations and discourse in child language

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Children's Use of Discourse Markers in Disputes: Form–Function Relations and Discourse in Child Language

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Children's verbal disputes were analyzed for the development of discourse markers *because, so, and, but,* and *well.* One hundred twenty-eight verbal disputes were analyzed; participants were 23 children ranging from 2 years;7 months to 9 years;6 months, and 10 adults, all interacting at home in various play activities. It was predicted that the functions of discourse markers would be limited to the local level of discourse for the youngest children, and the markers would primarily index either the exchange or action levels of discourse before the ideational level of discourse. The last function to develop for these forms should be the ideational function of markers which marks global discourse structure. The results showed that the markers were primarily used to mark the exchange structure of discourse when they were first used by children 2;7 to 3;6 years. The global level of discourse was not marked by children until the second half of their 4th year (3;6–4;0), and the first markers to do so were *because* and *but,* both of which have particular importance in disputes because they mark reasons and contradictions, the major parts of the structure of disputes.

1. INTRODUCTION

Discourse analysis has greatly increased our understanding of linguistic interaction, which in turn has enriched our insights into the study of linguistic form and function. In particular, this research has been a great benefit to those who study language acquisition. The interplay between form and function has become important to the issues in language acquisition because it may explain in detail the order of acquisition and the organization of the child's grammar (Bamberg & Marchman, 1990; Budwig, 1989; Ervin-Tripp, 1989; Gerhardt, 1990; Slobin, 1989). In this article, I present research on the acquisition of **discourse markers**, an aspect of language in which the interplay between form and function can give us new insights into the principles of language acquisition. This investigation also sheds more light on the nature of discourse markers by examining local levels of discourse versus global levels in a particular speech event; verbal dispute.

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1.1 Literature on Discourse Markers

Many studies can be considered precursors to the study of discourse markers; they have investigated how language use coordinates people's activities, how language marks the social relations between speakers and hearers, and how discourse is organized above the level of the utterance or sentence. One of these earlier investigations was Marilyn Merritt's 1984 paper on the use of "OK" in service encounters. Based upon naturalistic observations of the interaction of customers and personnel in service-oriented businesses, Merritt analyzed the connection between language use and routinized social interaction. This analysis concluded that "OK" functions to mark the next move in the sequence of interactions between customers and personnel; it in fact "releases" the addressee to make the next move, and communicates approbatory meaning. "OK" functions on two levels of discourse activity, the linguistic meaning level and the level of social action.

The study of discourse markers was formalized for the first time by Deborah Schiffrin's 1987 book *Discourse Markers*. By examining a corpus of sociolinguistic interviews, which included narratives, explanations, arguments, story rounds, clarification sequences, and question/answer pairs, Schiffrin was able to identify how certain lexical items and phrases were used to indicate coherence and structure in the discourse. Indexing the discourse occurs simultaneously on several levels or planes: the level of exchange structures that coordinate turns of speech; the level of action structures that coordinate speech acts and nonverbal aspects of the interaction; and the level of ideational structures that coordinate the propositional content of the speech.

These markers also index the participation framework of the speech event, indicating the roles that speakers and hearers play in relation to each other. They also indicate changes in the information states of the participants as their ideas and messages change in the course of conversation. Schiffrin (1987) noted how these discourse markers were used at both the local and global levels of discourse organization. Her analysis stresses that markers function "simultaneously on several planes of discourse. Although it is still an open question as to whether some markers are specialized for particular functions, we can hardly argue either that markers have only one function, or that a single marker has only a single function" (p. 61).

Schiffrin's form–function analysis concluded that many connectives (*and, but, so, because*) function primarily on the level of ideational structure, although they also function on the levels of action and exchange structures; other lexical items (*well*) function primarily on the level of exchange (especially marking the structure of the participation framework, how the speaker and hearer are related to each other at the time of the utterance), although they also function on the levels of action and ideational structures.

1.2 Literature on Children's Verbal Disputes

Conflicts among children have been of interest to developmental psychologists for many years; one of the first studies was conducted in the early 1930s (Dawe,

1934). In recent years, however, both the technological advancements in recording interaction and the theoretical advancements in the study of language have given researchers a new sensitivity to children's arguments. Several studies (Dunn & Munn, 1987; Hay, 1984; Maynard, 1985; Phinney, 1986; Shantz, 1987; Sprott, 1990) have described the nature of arguments among young children in the following ways: Arguments are rare and very short events, when compared to the rest of children's interactions during a typical day, lasting less than ten turns 90% of the time; giving reasons or justifications in arguments appears between the ages of 2;6 and 3;0; how an argument starts has a tremendous effect on the rest of the interaction; similarly, the topic of conflict has a tremendous effect on the interaction; and topics change in the course of development from an initial focus on object control to include issues of behavioral control or ideational opposition (differences in beliefs, likes, rules of interaction, moral or conventional transgressions).

Three recent studies of language development have examined the discourse structure of children's disputes. Phinney (1986) analyzed 129 quarrels between 5-year-olds and their siblings and peers for the structure of disputes in terms of conversational moves. In her analysis, she distinguished between a simple move (rejection, denial, contradiction) and an elaborated move (reason, explanation, justification). She found that simple opening moves led to strings of simple moves, whereas elaborated opening moves led to strings of more elaborated moves. In addition, older children displayed more elaborated moves than younger children, and the use of elaborated moves depended on the topic of the dispute as well as the addressee (e.g., older vs. younger, sibling vs. peer). Sprott (1990) found that the content as well as the occurrence of such elaborated moves is dependent upon the age of the child, the topic of the dispute, and the addressee (older vs. younger). This study analyzed 128 disputes among children (age 2;7–9;6) and between children and adults. Reference to physical states and events in justifications occurred at all ages in arguments about the truth of the speaker's utterance, but in arguments about plans and intentions only older children (6;6–9;6) and adults referred to physical states and events (these justifications were spoken only to younger addressees). Reference to psychological states in justifications occurred at all ages in arguments about plans and intentions, but only older children (6;6–9;6) and adults referred to psychological states in arguments about the truth of a speaker's utterance. Dunn and Munn (1987) examined the disputes of children ages 1;6 to 3;0, a younger age group than studied by Phinney (1986) and Sprott (1990). Dunn and Munn found a significant increase in the use of justifications between ages 2;6 and 3;0 and a difference in the occurrence of justifications dependent upon the topic of the dispute. Disputes about ownership of objects, plans, and intentions were the context for most first-time uses of justifications.

Children's disputes are very different from the types of speech events Schiffrin examined in her study of discourse markers, both in speaker ages and discourse organization. This difference will be useful in examining the form–function

relations of discourse markers, how they are affected by the discourse context, and how they function at different ages.

1.3 Hypotheses

By its very nature, child language is different from adult language, in discourse features as well as semantics and syntax. Discourse markers should therefore function differently for children than they do for adults. Recent work analyzing form–function relations in child language development (Budwig, 1989; Escalera, 1989; Gerhardt, 1988, 1990; Pak, 1989; Slobin, 1989) has consistently found that many linguistic forms serve communicative interactional functions more often than semantic ideational functions when they are first acquired. Specifically, the functions of children's forms are more sensitive to the immediate discourse context, activities, and purposes in speaking than are the functions of adults' forms, and less sensitive to ideational features which are constant across discourse contexts, activities, and purposes in speaking. Based on this research, we can form the **interactional-functions hypothesis**: The first functions of children's linguistic forms will be more sensitive to interactional functions than ideational functions.

This hypothesis should apply directly to the development of discourse markers, because discourse markers clearly have both interactional and ideational functions. A cline from interactional to ideational functions can be mapped out, with the more interactional functions motivating the uses of the forms in the initial stages of language acquisition. This is depicted in Figure 1.

Another feature of child language that affects the development of discourse markers is the development of discourse complexity. Recent studies of children's discourse organization (Bamberg & Marchman, 1990; McTear, 1985) have noted that global discourse organization comes well after organization at the local level. In early conversational development, children structure turn exchange sequences relying only on the local, immediately prior context; their turn exchanges are simpler in structure than adult exchange sequences (McTear, 1985). The differences between local and global discourse organization also affect how

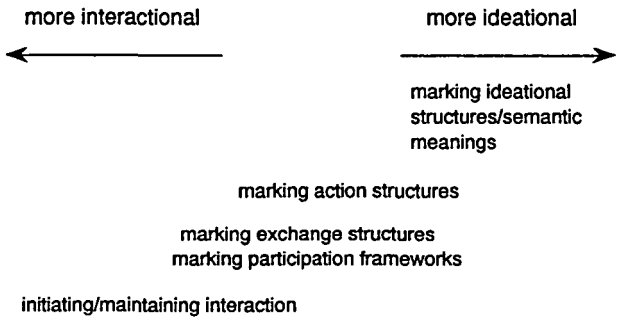

FIGURE 1. Cline of international functions to ideational functions.

children linguistically mark episode boundaries in narratives with aspectual markers; children use these devices to mark simple, short episodes in a linear sequence of events rather than to mark the global, hierarchical structure of a narrative like adults do (Bamberg & Marchman, 1990). From these findings, we can form another hypothesis pertinent to discourse markers: Children's discourse markers, at first, mark only local levels of discourse, and then mark global levels of discourse. Local levels of discourse include exchange structures, action structures, and ideational structures covering only immediately prior or upcoming talk. Global levels of discourse include ideational structures that cover larger units of talk, such as returns to prior topics.

In summary, according to the interactional-functions hypothesis, we should predict that discourse markers for children primarily index either the exchange or action levels of discourse before the ideational level of discourse. In addition, we should predict that only local levels of discourse would be marked at first. The last function to develop for these forms should be the ideational function of markers which marks global discourse structure.

2. METHODS OF ANALYSIS

Twenty videotapes from a database collected by Susan Ervin-Tripp in 1976 (S. Ervin-Tripp, personal communication, July 1989) were chosen to be analyzed for children's disputes. The videotapes included children's activities with siblings and peers in their homes, for example, role-playing or baking cookies. Summing across all 20 videotapes, there were six children in the 2;7 to 3;6 age range, twelve in the 3;7 to 6;6 age range, five in the 6;7 to 9;6 age range, and ten adults.

One hundred twenty-eight verbal disputes were identified. An interaction was called a verbal dispute when participants explicitly expressed two opposing assertions and it was clear that one participant disagreed with another. Therefore a dispute was always at least three turns in length, specifically: an assertion, followed by a challenge to that assertion, followed by a counterchallenge (Dunn & Munn, 1987; Maynard, 1985). This definition of dispute included any exchange sequence that had a joking or teasing quality or a cooperative, playful quality, in addition to the serious or angry dispute.

Once a verbal dispute was identified, all instances of the discourse markers *because, so, and, but,* and *well* were analyzed further for their functions, as were the age of the speaker and the topic of the dispute. These particular markers were chosen because of their frequency in these disputes, and because of their particular semantics and functions: *Because* and *so* are important as causal-connectives to mark reasons and justifications; *and* is an additive-connective common in almost any speech context, including disputes; and *but,* an adversative-connective, and *well,* a marker of dispreferred utterances, are important indicators of contradiction.

The topics of the dispute were analyzed into three categories: *intentional*

disputes, *propositional* disputes, and *other* disputes. These categories are adapted from Dunn and Munn (1987). Intentional disputes are arguments about conflicting plans, goals, or intentions among the participants. Propositional disputes are arguments about the truth of a previous assertion or claim, which can be about the physical world, past events, construal of events, properties of language, or epistemic claims. Other disputes include arguments about procedures or how to attain common goals or implement plans, arguments about ownership or control of objects, or playful disputes which focus on name-calling or other forms of language play.

Finally, the *textual* functions of the discourse markers were analyzed (Halliday, 1978). These are functions that are important to the organization of talk as a text created between people. I should stress at this point that only the textual functions are analyzed in detail; the social functions and the semantic functions of the discourse markers will only be mentioned briefly. The textual functions of the markers incorporate a cline of "interactional–ideational" functions themselves, from the exchange function to the action function to the ideational function. The coordination of exchange in interaction is not limited to speech; these aspects can be found in the coordination of participants in nonverbal play activities. The coordination and marking of speech acts is more particular to language, but many of the intents or purposes which underly their definition can be found in nonverbal communication such as gesture. The coordination and marking of ideation or propositional content is the most particular to language as a complex symbol system. The other functions of markers, indicating changing information states and the participation framework, have not been included in this study because these functions are more closely related to the dynamics of social interaction rather than textual structure, per se.

To test the hypothesis about the form–function relations of discourse markers each use of the marker was classified according to textual functions based on specific textual details. Table 1 presents the coding schema for the functions of the discourse markers. There was plurifunctional coding; that is, each use of a

TABLE 1
Coding Schema for the Textual Functions of Discourse Markers

Function	Criterion
Exchange	The marker appears at the beginning of a speaker's new turn.
Action	The marker appears at the beginning of a directive speech act.
Local ideational	The marker combines clauses in one intonational unit.
Global ideational	The marker appears at the beginning of new units of the discourse, involving topic shifts or new argumentative tactics.

discourse marker is coded for each of the functions for which it meets the specific contextual criteria listed in Table 1, so that a marker at the beginning of an utterance that changes the topic can be coded as having an exchange function as well as marking global ideational structures. Presented in the following are examples from the corpus of each function.

3. TEXTUAL FUNCTIONS OF DISCOURSE MARKERS

3.1 Exchange

(1) The following example is from an unusually long dispute between a boy, S (age 2;11), and his sister, M (4;2). They have been reading a picture book with an adult, G.

M: And that's my brother and that's a nice lion.
S: That's a . . . no, he's a scary lion.
G: A scary lion or a friendly lion?
M: A friendly lion.
S: A scary one.
M: No. It's a friendly lion.
S: A . . . a scary one.
G: Why is it scary?
S: ***Because*** he is.
M: He's not scary.
G: ***But*** he's smiling.
S: No, he's . . . he's roaring.
G: Oh.

The dispute continues for another 16 lines, at which point the topic changes and another dispute ensues. The marker *but* was coded as having an exchange function, and it also has a global ideational function because it marks a shift in argumentative tactic. The marker *because* was coded as *only* fulfilling the function of marking exchange structures, because it occurs at the beginning of a speaker's turn, and the utterance that it marks is not a shift in topic or argumentative tactic, but simply states information already given in the context. In fact, this move can be thought of as primarily an "interactional" move, because it adds no new information to the discourse, but simply seems to be holding a place in the dispute, elicited by the "why" question of the researcher. This place in the dispute does have a function in the discourse, and therefore it pragmatically signals aspects of a reason or justification (see discussion of **discourse frames** in Gerhardt, 1990), but the actual ideational content is different from what is expected from an adult's perspective.

Here is another example of an "interactional" move signalled by a discourse marker, coded again as having only an exchange function:

(2) B is a researcher, sitting with S, a boy (3;3), talking about a picture book they have been paging through.

B: Can this one fly? [pointing to a picture of a spider]

S: No.
[noisy interference from TV]
B: NO?
S: ***But*** he's a spider.

There is some ambiguity about B's feedback to S's answer, whether it was a clarification request or a challenge. S interprets it as a challenge, and responds to it with a counterchallenge, marked by *but,* which simply states information already available to the hearer in the context. Again this is seen as primarily interactional because it adds no new information to the discourse.

Here is a third example, one in which the marker *well* is used to mark a speaker's turn that restates a previous utterance in the dispute:

(3) M, a girl (4;2), is arguing with her brother S (2;11), about the use of some wooden blocks:
M: I need some. [M takes some from S]
S: I want some blocks.
M: Well, these are mine.
M: ***Well,*** I want some. [yelling, angry]
[M grabs them and hits S]

This use of the marker *well* indicates a move that contradicts the previous speaker, but the move simply restates a prior utterance, not adding any new information to the dispute or changing argumentative tactics.

3.2 Action

Here is an example of a discourse marker functioning at the level of action structures, marking a directive:

(4) Two girls, K (4;0) and C (3;8), are playing dress-up at C's house.
K: I can wear you panchos, OK? /***And***/ don't say—
C: /No/
K: ***And*** don't say "No, no" ["no" said in a high squeaky voice]
C: ***And*** don't say "na" [mimicking]

In this dispute, *and* is used to mark a directive. The first use was coded as marking action structures only, because it didn't occur at the beginning of a speaker's turn but did mark the use of a directive speech act. The second use was coded as having both exchange and action functions; this particular move is not considered an "interactional" move but a repair, because there was overlap of speaker's turns. The third use was also coded as having both exchange and action functions.

3.3 Local Ideational

(5) K (9;6) girl is painting at a table with B (4;2), her sister, each working on individual projects. K has noticed that B is copying her painting and gets upset.
B: I can copy if I want to.
K: I don't want you to.
B: Why not? [pause]
I don't think to copy like you, ***because*** I like it.
K: [sighs]

This use of *because* was coded as local ideational only, marking a clause combination that does not involve shifts in topic or argumentative tactics, and not occurring at the beginning of a speaker's turn, and not occurring before a directive speech act. The clause after the connective *because* is subordinate to the matrix clause only, and doesn't mark a larger unit as subordinate to the prior discourse. The *because* clause is also connected to the prior clause in one intonational unit, as defined by the absence of a definite falling contour (Kyratzis, 1991).

3.4 Global Ideational

The dispute given as the first example of a discourse marker with exchange function also contains a use of a marker to indicate global ideational structure:

(6)
M: And that's my brother and that's a nice lion.
S: That's a . . . no, he's a scary lion.
G: A scary lion or a friendly lion?
M: A friendly lion.
S: A scary one.
M: No. It's a friendly lion.
S: A . . . a scary one.
G: Why is it scary?
S: Because he is.
M: He's not scary.
G: ***But*** he's smiling.
S: No, he's . . . he's roaring.
G: Oh.
M: No he's not. He's talking.
S: He's roaring. [yells]
M: Talking.

This use of the marker *but* not only was coded as marking exchange structures but global ideational structures as well, because it introduces a shift of focus in the argument that is taken up by the other participants. Here is another example of a marker having global ideational function:

(7) A (4;11), a boy, is playing with K (4;11), a girl, and his sister J (4;3). They are playing a card game.

K: I want a turn, too. Cuz I—
A: —You can't do that.
K: But I want a turn. ***Cuz*** J had one turn—J had a turn already.
And I wanna have my turn too.
I wanna have one /turn/
A: /Well/ come on. Get pushing.
J: No, we're not gonna play.
We should get one /turn/
A: /This/ is all they can stand. They can't stand no more. [exasperated]

The *because* in this argument signals that the upcoming discourse is support for K's demand for a turn in the game, and expressing the reason is not limited to one clause. This *because* does not combine two clauses in one intonational unit (Kyratzis, 1991), mark a directive speech act, or mark the beginning of a speaker's turn.

4. RESULTS AND DISCUSSION

The results are presented in two sections; the first presents age-related changes in the form–function relations of these discourse markers, and the second presents how the topic of the dispute affects the use of discourse markers. First I will discuss particular age groups individually, and then summarize all of them to present a coherent picture of the changes in the use of discourse markers in verbal disputes.

4.1 The Youngest Age Group: 2;7 to 3;6

In spite of being in verbal disputes often, children between 2;7 and 3;6 hardly used discourse markers. However, the specific forms studied here (*because, and, well, but, so*) were used at least once by these children in the corpus, except *so*. Each use of the markers occurred as primarily marking the exchange structure of the interaction, not the action structure or the ideational structures. *Because* was used to mark the "answer" part of a question–answer adjacency pair only. *Well* and *but* were used to mark turns that contradicted the addressee's previous turn. *And* was used to connect a speaker's turn to the previous turn of another participant. These results are presented in Table 2.

If one were to look only at the moves containing discourse markers, one might conclude that these children are not very good at verbal disputes because these particular moves seem primarily interactional, having very little ideational content in them. In contrast, however, there are ideationally substantive moves made

TABLE 2
Form–Function Relations for Children Ages 2;7 to 3;6

Exchange	Action	Local Ideational	Global Ideational
because	—	—	—
—	—	—	—
and	—	—	—
but	—	—	—
well	—	—	—

by these children in verbal disputes—*but they are not marked with discourse markers*. Here is an example of a justification not marked by causal connectives or other markers:

(8) T, a boy (4;3), is playing with a neighbor, K, a girl (3;6), and T's sister, A (2;4). They are claiming toys to play with and this leads to a dispute.
T: No-no I'm, I'm playing with her. I'm playing with Mrs. Murphy.
A: NO. ***This is our house.***
T: Well, it's not your—it's not Mr. Murphy's. It's Mrs. Murphy's.

The indicated clause is a reason (specifically a property claim) that supports A's denial of T's plans and claims to the objects. There had been no mention of ownership of the house until A's reason, and because the house and Mrs. Murphy go together, it is an important move in the argument. Again, this is a substantive move in the dispute, but it is not indicated by any discourse marker, like T's reason given in the next line, marked by *well*. These examples of justifications in arguments are not utterances that just repeat immediately previous moves or give information already available in the environment, as we saw in the primarily interactional moves marked by discourse markers.

It seems that the markers are used by these youngest children *to mark a place in the dispute when they have no new information or other substantive move to contribute*, and they know they must say something. The pragmatic aspects of the utterance far outweigh the semantic aspects in the functions of these markers. This points to the importance of the social functions over the textual functions for the markers, because only one textual function is motivating the use of the form, whereas both social functions of maintaining conversation and voicing protest are primarily motivating the use of the form (see Pak, 1989, for discussion of the function of maintaining conversational interaction in children's use of question forms). The function of the markers in this context rely primarily on social and interactional factors rather than ideational factors.

TABLE 3
Form–Function Relations for Children Ages 3;7 to 6;6

Exchange	Action	Local Ideational	Global Ideational
because	—	because	because
—	so	so	—
and	and	and	—
but	but	—	—
well	well	—	—

4.2 The 3;7 to 6;6 Age Group

In this age group all of the markers, including *so,* and all of the functions were used in the course of these verbal disputes. For marking exchange structure, the markers *because, and, but,* and *well* were used. For marking action structures, these children used *so, and, but,* and *well.* For marking local ideational structures, the children used *because, so,* and *and.* And for marking global ideational structures, the children used *because* only. These form–function relations are presented in Table 3.

The semantic content of each marker interacts with its discourse functions; the contrastive markers are used to indicate action and exchange structures that contradict other speakers, and the causal markers begin to mark reasons and justifications (ideational) that support the speaker's point of view during the argument. Verbal disputes, by their nature, also impose a global discourse structure that is different from narratives or other speech events. Rhetorical positions and supporting information become salient parts of the disputes, and these are the first to be marked on the global level by the marker *because.* Example (7) demonstrates this first use of *because* to mark global-ideational structures.

4.3 The Oldest Age Group: 6;7 to 9;6

A different type of shift in the form–function relations occurs in 6;7 to 9;6 age group. For the first time, some of the markers begin to lose their original primary

TABLE 4
Form–Function Relations for Children Ages 6;7 to 9;6

Exchange	Action	Local Ideational	Global Ideational
because	—	because	because
—	so	so	—
and	and	and	—
—	but	but	but
well	well	—	—

textual function and acquire other textual functions. This is presented in Table 4. A differentiation of function for the contrastive discourse markers is evident for the first time in this age group, with *but* marking ideational contrasts at both the local and global level, and *well* marking contrasts at the exchange level. The younger children did not use *but* primarily for this function, but restricted it to marking the exchange and action structures. *But* is also used on the global level of discourse for the first time, marking changes in topic or argumentative tactics instead of only marking contradictions at the local level of discourse.

4.4 The Adults

The adults' use of discourse markers suggests that further development in the form–function relations occurs between the ages of 9;6 and adulthood. In fact, the adult use of discourse markers mirrors exactly the conclusions Schiffrin (1987) arrived at in her analysis of quite different text types. Table 5 presents the adults' form–function relations.

By adulthood, the connectives are used primarily to mark ideational structures, and *well* is used primarily to mark exchange structures. These are the same form–function relations that Schiffrin found for these discourse markers in a different speech context, that of ethnographic interviews, which contained many narratives and other speech events as well as some adult disputes.

Table 6 (p. 436) summarizes all the age-related changes in the form–function relations. This table shows a general age-related shift in the functions that discourse markers possess, from marking only exchange structures to marking ideational structures of discourse. Some markers, like *well,* are acquired marking exchange structures and add other functions, whereas others, like *but,* are acquired marking exchange structures and then drop this function as they begin to mark action and ideational structures.

4.5 Discourse Markers and Different Topics of Disputes

The literature on the discourse analysis of children's disputes frequently reports that the topic of the dispute has dramatic effects on the discourse structure. Therefore it is important to ask "Does the topic of a dispute have an effect on the use of discourse markers?" The motivation for investigating this question is not

TABLE 5
Form–Function Relations for the Adults

Exchange	Action	Local Ideational	Global Ideational
because	—	because	because
—	so	so	so
—	and	and	and
—	but	but	but
well	well	—	—

TABLE 6
Age-Related Differences in the Form-Function Relations of Discourse Markers

	Ages			
	2;7–3;6	**3;7–6;6**	**6;7–9;6**	**Adults**
Exchange	because	because	because	because
	and	and	and	
	but	but		
	well	well	well	well
Action		so	so	so
		and	and	and
		but	but	but
		well	well	well
Local ideational		because	because	because
		so	so	so
		and	and	and
			but	but
Global ideational		because	because	because
				so
				and
			but	but

as theoretical as the previous examination of form–function relations of discourse markers. The apparent sensitivity of discourse structure to topic has not been described in any principled way, and we do not have a principled way to predict how different discourse structures will affect the use of discourse markers.

Of the 128 disputes analyzed for this study, 70% of them were *intentional* disputes, 20% were *proportional* disputes, and 10% were *other* disputes, most of which were arguments about how to implement plans and reach common goals. Table 7 presents the distribution of the discourse markers across the three topics of disputes.

Generally, intentional disputes seem to be a richer context for discourse markers than one would expect if topic did not effect the use of discourse markers. There are two minor patterns in Table 7 that are not captured by this summary statement. The first is the restriction of the causal-connectives to intentional and propositional disputes. This is an interesting finding, given that previous research with this corpus on the speech act *justification* (Sprott, 1990) did find reasons and justifications in the *other* categories of disputes. Marking reasons with the causal-connectives may be influenced by the topic of the dispute, so that it becomes more important to the speaker to explicitly mark this aspect of discourse structure in some types of disputes rather than in others. The second pattern is the

TABLE 7
Percent Distribution of Discourse Markers Across Different Topics of Disputes

	Topic of Dispute		
Discourse Marker	Intentional (70% of all disputes)	Propositional (20% of all disputes)	Other (10% of all disputes)
Because	94	6	
So	87	13	
And	89	6	5
But	69	25	6
Well	79	12	9

use of *but* and *well,* which doesn't seem to be affected by the topic of dispute, explicitly marking contradiction in each type of dispute equally. This makes intuitive sense in that disputes are defined as speakers contradicting each other regardless of the topic. In fact, contradiction is a necessary characteristic in a dispute, but giving reasons is not.

5. CONCLUSIONS

This analysis of the form–function relations of discourse markers has supported the **interactional-functions hypothesis**. According to the interactional-functions hypothesis, we should predict that at first the functions of discourse markers would be limited to interactional functions rather than ideational functions. In addition, previous research has consistently found the local levels of discourse structure develop before the global levels; we therefore should predict that at first children's discourse markers should be limited to the local levels of discourse. Combining these two hypotheses, we should predict that discourse markers for children primarily index either the exchange or action levels of discourse before the ideational level of discourse. Then, marking the local-ideational level of discourse should appear before marking global ideational levels of discourse. The last function to develop for these forms should be the ideational function of markers that marks global discourse structure.

The results showed that the markers examined, *because, so, and, but,* and *well,* were primarily used to mark the exchange structure of discourse when they were first used by children ages 2;7 to 3;6 in these disputes. As children develop linguistically, the forms begin to gain other functions, marking action and ideational structures. In fact, some of the markers begin to lose the primary function they were acquired with, and fulfill other functions; this is especially clear in the case of *but.* When it is first acquired, *but* is used primarily to mark exchange

structures in these disputes. As children get older, *but* is used to mark action and ideational structures, and not primarily exchange structures.

The global level of discourse is not marked by children until the second half of their 4th year (3;6–4;0), and in these disputes the first markers to do that are *because,* and a little later in development *but,* both of which have particular importance in disputes because they mark reasons and contradictions, the major parts of the structure of disputes. Although global levels of discourse are marked at this age, children still do it differently than adults, and there is a gradual development in this area as children extend other forms to this function. By adulthood, people are using discourse markers in the ways that Schiffrin (1987) concluded in her analysis.

This investigation also studied how the topics of disputes affect the use of discourse markers. It was found that disputes about plans, intentions, and goals were an especially salient context for the use of discourse markers. This finding is reminiscent of Dunn & Munn (1987), which found that these types of disputes were the first contexts for reasons and justifications in children ages 2;6 to 3;0. Further investigation is needed to examine the relation between topic and discourse structure in greater detail. Related to this issue, it should be stressed that these findings reported here are for one particular speech event, verbal disputes, and that the relation between different speech events and discourse markers has not been investigated yet. It could be that the developmental trends and the form–function relations discussed here are limited to the context of verbal disputes. Future investigations should examine the acquisition of form–function relations of discourse markers across different speech events.

This study has also emphasized the differences between local and global levels of discourse and their importance in development. Children seem to construct discourse only at the local level until the age of 3;6 to 4;0, and then the construction of global levels of discourse seems to be a gradual process extending all the way to adulthood. Future studies of discourse and development should at least be sensitive to this factor. The examination of how discourse markers index global structures is a promising direction which will have direct impact on studies of language acquisition.

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