CONNECTIVES AS BOTH SEMANTIC AND PRAGMATIC LINKS IN CHILDREN'S NARRATIVES

Carole Peterson
Memorial University of Newfoundland

ABSTRACT

Children's (3 to 9 years old) use of the connectives so, because, and but during conversational narration was assessed. The function of each of these connectives for pragmatic versus semantic purposes was studied, and it was found that all are used to fulfill both roles. Specifically, the following pragmatic functions were revealed: (a) to mark the beginning of a narrative or component episode, (b) to change the focus from event recapitulation to listener-directed contextual remarks and vice versa, (c) to indicate that strict temporal succession is violated, and (d) to mark a narrative conclusion. Children show competence in using connectives pragmatically to regulate narrator-listener interaction and to move among the different levels of discourse that are found in conversational narration.

1. Introduction

A common approach to the study of connectives is a description of the meaning relationships that occur between connected clauses. A large body of research has studied children's production and comprehension of these semantic links between propositions, and explorations of children's acquisition have focused on how and when children understand that, for example, because and so assert causality, but requires antithesis, then entails temporal succession, and implies addition, and so on.

A problem with this approach has emerged, however. In spontaneous discourse, connectives sometimes serve pragmatic functions that are quite different from semantic ones (Eisenberg 1980, Gallagher & Craig 1987, Jisa 1987, Scott 1984, van Dijk 1979, 1981). van Dijk (1979:447) has contrasted these two functions of connectives in the following way: 'Whereas semantic connectives express relations between denoted facts, pragmatic connectives express relations between speech acts.'

Investigations of pragmatic use have focused on dialogue and the ways that individuals link their speech acts with those of their conversational partner. Children as well as adults use connectives as inter-speaker links; for example, Gallagher and Craig (1987) and Scott (1984) both found that connectives were consistently used pragmatically to link discourse across speakers in contexts that were socially demanding. These pragmatic connectives primarily expressed addition or contrast, and Gallagher and Craig further noted that they were most common when children were specifying play roles or personal identity.

None of the above studies has focused on pragmatic use of connectives in roles other than linkage between speaker turns. Of current concern is the question of how connectives are used for both semantic and pragmatic roles within extended child speech about a single topic, namely narratives about personal experience. In previous research, both semantic and pragmatic roles for the connective and have been investigated (Peterson & McCabe 1987, in press). When children of age 3 to 9 narrate, they frequently connect sentences with and when a range of semantic functions are involved, including causality, temporal succession, enablement, coordination and antithesis (Peterson & McCabe 1987). Early predictions suggested that although and would be used for a wide range of meanings by young children, older children should increasingly express causality by means of a causal connective such as so or because, temporal succession by a temporal connective like then, and antithesis by but. Thus, and should be increasingly reserved for coordination. However, use of and to express all of the above semantic functions was just as true for older children as it was for younger. Pragmatic roles for and were also investigated, and it was found that and is more commonly used when the child is producing thematically related speech and is associated with longer conversational turns (Peterson & McCabe in press). Thus, and seems to function as a generalized signal of cohesion between sentences in narratives.

Other connectives besides and are heavily used by children while narrating; the present research explores use of the causal connectives so and because and the adversative connective but within conversational narratives. Brown (1973) suggested that a major accomplishment of language acquisition is the ability of children to talk about the there-and-then, rather than exclusively about the here-and-now. Intra-conversational narratives provide an excellent corpus of such displaced conversation since events being described necessarily happened at another time and generally in another place. Narratives also involve extended turns at talk for the narrator, so that one can study the sorts of inter-sentential links that the speaker makes between related discourse sentences. Earlier research has convincingly demonstrated that children master appropriate semantic usage of many connectives (including the ones

studied here) by the preschool years (Bloom, Lahey, Hood, Lifter & Fiess 1980, Clancy, Jacobsen & Silva 1976, Eisenberg 1980, French & Nelson 1985, Hood, Lahey, Lifter & Bloom 1978), but it is unclear to what extent children understand the pragmatic roles that connectives can play within narration.

In the present research, both pragmatic and semantic usage of connectives are compared in the same narratives at a number of different ages, to assess whether competent use of connectives for semantic purposes precedes appropriate pragmatic use or whether both types of use emerge simultaneously. No hypothesis could be proposed since this question has not yet been addressed in other research. Further, descriptive categories are developed for the pragmatic roles connectives play within children's narration.

2. Structure of Narratives

In order to assess children's pragmatic use of connectives, one must first understand the structural properties of conversational narratives. During narration, the narrator must hold the floor; standard conversational turn-taking does not apply and interruptions by the listener are generally confined to indications of interest, encouragement to continue, repetitions of immediately preceding words or sentences to assure proper comprehension, and prompts for specific information that has been left out. It is thus necessary for the listener to know both when a narrative begins and when it ends.

The most basic requirement of the narrative itself is a chronological recounting of the successive events (the event-line or the timeline of a narrative) that comprise the reported personal experience (Labov and Waletzky 1967, Peterson and McCabe 1983). Few narratives, however, are this stark; most have various elaborations. Some have an abstract at the beginning of the narrative that summarizes or formally introduces the narrative, and usually the narrator departs from the timeline to insert various details of orientative information at various points in the narrative, particularly at the beginning. At times the narrator departs from the timeline for other reasons: to insert an attention-getter, to correct or reiterate a prior statement, to ask for specific information from the listener, etc. As well, more complex narratives may consist of a series of related episodes (Mandler & Johnson 1977, Peterson & McCabe 1983, Stein & Glenn 1979). For these, the narrator describes the tightly-related events of the first episode, then often indicates a break or a passage of time before recounting the next series of events that comprise episode 2, and so on. Appended to the end of a narrative is often a formal ending of some kind: a summary, an evaluation of the

narrated events, or a coda that returns the listener to the present time.

Within a conversational narrative, many of the events are semantically linked by means of causality, temporal sequence, contrast, addition, or other traditional relationship of various connectives. These links, to use van Dijk's terminology, are between denoted facts; using a semantically matched connective is the appropriate syntactic mechanism for specifying the type of semantic relationship that exists between propositions. In addition, connectives may be used to regulate the discourse as a whole; connectives that are used for these purposes serve pragmatic functions of relating speech acts. In narration, at least five general types of pragmatic functions are important: (a) beginnings, i.e., initiation of the narrative as a whole or a component part; (b) change of focus from event recapitulation to embedding context or listener-monitoring and vice versa, i.e., a departure from or return to the timeline; (c) violation of the strict event chronology that listeners expect; (d) endings, i.e., termination of the events of the narrative; (e) cohesion, i.e., the relating of the utterances of the narrator to form a connected whole. The connective and seems to be frequently used for the last of these functions, cohesion (Halliday & Hasan 1976, Peterson & McCabe in press). An important question is whether other connectives, specifically so, because and but, are used to fulfill the other functions listed above.

3. Method

3.1 Corpus of narratives

A total of 1124 narratives of personal experience were elicited from 96 children ranging in age between 3½ and 9½ years - 16 children (half female and half male) at each yearly age level. All were white, predominantly working-class children who lived in a small town in northern Ohio. The narratives were elicited during the course of individual conversations between the experimenter and each child in a separate room of the child's school or preschool. Sprinkled throughout the conversation were various prompts such as 'Have you ever been to the doctor? Tell me about it.' (See Peterson and McCabe (1983) for a description of the prompts and the method of eliciting narratives from young children.)

3.2 Analysis procedure

The connectives used by the children were identified by means of the computer program NARRAN, which searched the corpus for all instances of each specified connective and then displayed it on a

split-screen monitor with surrounding context. A rating tree of scoring decisions was also presented step-by-step on the screen and the scorer was led through the scoring decisions by NARRAN. Instances of connectives that were embedded in abandoned speech fragments and false starts were eliminated, as were instances in which the connective did not join two independent clauses.

3.3 Reliability

All connectives were scored in terms of the categories described below. Fifteen percent of the transcripts were scored by two scorers independently and the reliability between scorers (calculated as the number of agreements divided by the number of agreements plus disagreements) averaged 88%, with a range of 80% to 100%.

4. The Connective SO

Semantically, so is a connective that usually indicates some kind of cause-effect link between events, comparable to because, although so is more flexible in that it can also be used to indicate temporal succession. The difference between because and so is structural: so requires the clause order 'cause - so - effect' and because reverses the clause order to 'effect - because - cause.' In the semantic categories below, so encodes either causality of some kind or temporal sequence. The relationship of causality has been broadly defined and includes weakly causal enabling relationships (termed 'precausal' by Hood et al. 1978) as well as instances in which a causal series of events is implied but the direct cause of a specific effect must be inferred.

There are however many instances in which so does not fulfill the semantic functions of causality or temporal sequence. Rather, the connective so is used to link speech acts and to indicate deviance from the chronology of the timeline; these are pragmatic functions.

4.1 Categories of use

4.1.1 Semantic categories

(i) Causality. McCabe and Peterson (1985) have listed a number of types of causality, including psychological causality in which reference is made to such motivations as intentions, emotions and reasoning (see example 1), physical causality in which the cause is rooted in the objective physical world (example 2), and other forms of causality. In contrast to McCabe and Peterson, causal

links here also include relationships in which the cause and effect are not directly contiguous but rather one of these components is explained elsewhere in the sentence or even in another sentence. McCabe and Peterson termed these relationships 'Not immediately causal but explained later' and classified them as errors. Here they are classed as causal relationships (example 3).

(1) She wanted to hurt him so she hit him.

(2) The car brakes didn't work so they crashed.

(3) He thought I wasn't going to make it to first so he threw it to second 'cause I was going to second after I made it to first.

(ii) Inferred causality. Other uses of so linked events that were part of a causal chain but the child omitted some part of the data.

(4) He tripped so he took a flashlight. (Inference: it was at night and was too dark to see.)

(iii) Enabling relationships. Here the first event sets the stage or provides the necessary preconditions for the second event but does not directly cause it.

(5) We had a lot of tools there, we could fix up tricycles so they wanted us to fix them up.

(iv) Temporal sequence. The events are adjacent and sequential; 'next' or 'then.'

(6) He hit me in the face and I thought for sure that I would kill him cause I get mad when people hit me. So he came at me again and tried to hit me again.

4.1.2 Pragmatic categories

4.1.2.1 Beginnings

(i) Opener. The connective so was used to initiate a new narrative.

(7) (Narrative begins:) So we had a dog. The dog catcher come and get him. ...

(ii) Use to begin recounting timeline events after initial abstract and/or orientation.

(8) (Narrative begins:) Our friend, he rides a motorcycle and he's not supposed to go on the road. So he was on the motorcycle one day ...

(iii) Initiation of a new episode in a multi-episode narrative.

(9) (Narrative about a car accident.) ... She had to have crutches because one of her legs got broken. So she came home. ...(Her adventures with crutches at home follow.)

4.1.2.2 Change of focus

(iv) Departure from the timeline to insert orientation, evaluation or an attention-getter.

(10) My sister told (our stepmother) that she was going to go out riding. So you know my mother's dead. She got killed by a semi. (A return to sister's adventures.)

(v) Return to the timeline after the insertion of orientation, evaluation or attention-getters.

(11) ... Know what we did? So the car smashed into there ...

4.1.2.3 Violation of chronology

(vi) Restatement of a previous proposition. Often the child recycles back to an earlier point in the narrative and then continues it from there.

(12) I was just sitting there, I didn't say a word. So I didn't say nothing.

4.1.2.4 Endings

(vii) Appending of a coda or other ending to the narrated events.

(13) (Report of a car accident and how many people died.) ... So they dead right now too.

4.1.2.5 Errors

Some instances of usage seemed to be errors in which the wrong connective was chosen. Most of the time the relationship was one of contrast and required the use of but.

(14) That night we were going to see the band playing in the restaurant so we decided we weren't.

4.2 Use of SO in children's narratives

The frequencies and percentages of use for so in each individual category are shown in Table 1 (totals for each related grouping and their relative percentages are indicated in parentheses). It is clear that some sort of causal or pre-causal link is the primary relationship encoded by so, although temporal succession also occurs.

Approximately one out of three uses of so does not involve a relationship between denoted facts; rather, it expresses a relationship between speech acts. Children frequently use so to introduce a narrative or a component episode, and to indicate some kind of violation of the expected event chronology that constitutes the backbone of any narrative. Departure and return to the timeline for purposes of orientation, evaluation or checks on listener attention are all marked with so, as is the coda that ends the timeline. (Not all these points are marked by so of course; some are marked by other connectives and some have no marking at all.) Clearly, so is a connective that frequently fulfills pragmatic functions in a narrative.

Although the age-range of the children studied was wide, there were no age changes in the proportion of their uses of so that fulfilled semantic versus pragmatic functions. This was confirmed by dividing the children into three age groups and doing a chi-square analysis on the frequencies of semantic versus pragmatic uses by the three age divisions. (The category of 'errors' was not included because of low numbers.) The chi-square was not significant (Chi-Square = 0.31, df=2).

5. The Connective BECAUSE

Formally, because must encode strict cause-effect relationships. Although it is sometimes used for instances in which the link is a weak one, as in the categories of enabling or inferred causality, these are usually considered errors. Some sort of causal relationship was encoded by most uses of because; however, the connective was occasionally used to fulfill the pragmatic functions detailed below.

Categories	Age 3½ - 5½		5½ - 7½		7½ - 9½	
<u>Semantic</u>	(41)	(71%)	(59)	(67%)	(145)	(67%)
Causality	33	57%	45	51%	115	53%
Inferred causality	4	7%	6	7%	13	6%
Enablement	3	5%	6	7%	6	3%
Temporal sequence	1	2%	2	1%	11	4%
<u>Pragmatic</u>	(16)	(28%)	(27)	(31%)	(68)	(31%)
Beginnings	(8)	(14%)	(7)	(8%)	(24)	(11%)
Opener	3	5%	1	1%	6	3%
Begin timeline	1	2%	1	1%	6	3%
New episode	4	7%	5	6%	12	6%
Change of focus	(6)	(10%)	(14)	(16%)	(18)	(8%)
Depart timeline	4	7%	2	2%	8	4%
Return timeline	2	3%	12	14%	10	5%
Non-chronology	(2)	(3%)	(5)	(6%)	(17)	(8%)
Endings	(0)	(0%)	(1)	(1%)	(9)	(4%)
<u>Errors</u>	(1)	(2%)	(2)	(2%)	(5)	(2%)

TABLE 1. SO: Frequencies and percentages of use in each category (and totals for groups of categories)

5.1. Categories of use

5.1.1 Semantic categories

(i) Causality. McCabe and Peterson (1985) have listed a number of types of causality that are parallel to the use of so, including psychological (see 15), physical (see 16), and other sorts of causal links. As above, relationships that were classified by McCabe and Peterson as 'not immediately causal but explained' were classified here as causal.

(15) Mom had to take me to the doctor because she didn't know what I had.

(16) The cut was all dirty because there was pencil lead down there.

(ii) Inferred causality.

(17) Last time (I went to a doctor) was to get stitches out of my head because my brother threw a gun at my head.

(iii) Enabling relationships.

(18) We got a turtle because it was right in front of us on the road.

5.1.2 Pragmatic categories

5.1.2.1 Beginnings

(i) Opener.

(19) (Narrative begins:) 'Cause Connie's mother's back from the hospital. ...

(ii) Initiation of a new episode in a multi-episode narrative.

(20) My sister was trying to wake me up and I was kept on sleeping. 'Cause like one time my mom said, 'Get up, get up, there's a fire!' (Episode of the fire continues.)

5.1.2.2 Change of focus

(iii) Departure from the timeline to insert orientation or other listener-directed comments.

(21) I asked him (the doctor) a lot of questions. He goes, 'Why, you're nosey. I go 'You are.' 'Cause I never had him before, you know.

(iv) Source of knowledge. The narrator leaves the timeline to tell you how she or he knows a particular piece of information.

(22) He got in a wreck and he died right where he was because Dad came by and saw it.

5.1.2.3 Violation of chronology

(v) Restatement or elaboration of a previous proposition.

(23) I didn't care if I broke it because it was fine to me if it broke.

5.1.2.4 Errors

As with instances of so, some uses seemed to be some sort of error in which the wrong connective was selected.

(24) (Child had swollen tonsils.) Part of my food couldn't get down 'cause I had to take milk. (Should be so.)

5.2. Use of BECAUSE in children's narratives

Frequencies and percentage use of each category are shown in Table 2 (with totals and relative percentages of larger groups in parentheses). Three-fourths of all uses of because encode causality. Although enabling and inferred causal relationships are often considered erroneous, they are frequent in children's narratives.

Of more interest is the relatively rare use of because for anything other than a causal or pre-causal link; only one out of ten uses can be considered pragmatic and there are no age changes. The overall frequencies of semantic versus pragmatic uses at the three age levels were analyzed by means of a chi-square calculation and the relationship between age and usage is nonsignificant (Chi-Square = 1.69, df=2).

Thus, of the two causal connectives so and because, the latter is more tightly wedded to causality whereas the former is more flexible. This is confirmed by a chi-square calculation in which the overall frequencies of semantic versus pragmatic uses of because and so are compared. (The categories are summed over the three age

Categories	Age 3½ - 5½		5½ - 7½		7½ - 9½	
Semantic	(71)	(93%)	(127)	(90%)	(163)	(89%)
Causality	56	74%	100	71%	137	74%
Inferred causality	13	17%	15	11%	16	9%
Enablement	2	3%	12	9%	10	5%
Pragmatic	(4)	(5%)	(13)	(9%)	(19)	(10%)
Beginnings	(2)	(3%)	(4)	(3%)	(4)	(2%)
Opener	1	1%	3	2%	1	1%
New episode	1	1%	1	1%	3	2%
Change of focus	(2)	(3%)	(6)	(4%)	(10)	(5%)
Depart timeline	1	1%	1	1%	9	5%
Knowledge source	1	1%	5	4%	1	1%
Chronology violation	(0)	(0%)	(3)	(2%)	(5)	(3%)
Errors	(1)	(1%)	(1)	(1%)	(2)	(1%)

TABLE 2. BECAUSE: Frequencies and percentages of use in each category (and totals for groups of categories)

groups since earlier analyses showed that age was not significant.) The children are using because and so in different ways (Chi-Square = 58.41, df=1, $p < .001$). Because is seldom called upon to fulfill pragmatic functions whereas so is used frequently for these purposes.

6. The Connective BUT

The connective but semantically encodes a contrastive relationship or antithesis, as described below. (See Peterson (1986) for a more detailed description of semantic uses.) As was the case for the causal connectives, semantic roles cannot account for all uses of but; it is used for pragmatic functions similar to those above.

6.1. Categories of use

6.1.1 Semantic categories

(i) Semantic opposition. There is a contrasting of states, events, or people, one against the other; this can be either explicitly stated or implied.

(25) My little sister's cute but my big sister is awful and ugly.

(ii) Violation of expectation. There is a contrast in expected events in which Event 1 leads to an expectation (either explicitly stated or implied) which does not occur in Event 2.

(26) He had a heart attack twice in a row but he didn't die.

(iii) Qualification. The second clause qualifies and partially negates or limits the first clause.

(27) I get so mad I punch him in the stomach but not that hard.

(iv) Knowledge versus reality. There is a contrast between the speaker's state of knowledge about an event or state and the reality.

(28) I didn't know it was ripped but it was ripped.

6.1.2 Pragmatic categories

6.1.2.1 Beginnings

(i) Opener.

(29) (Narrative begins:) But I saw the zoo.

(ii) Use to begin recounting timeline events after initial abstract and/or orientation.

(30) We went to my grandma's. That was the time when I woke up in the middle of the night. But my grandma had a hornets nest right up on top of the door ...(narrative recounts her hornet experiences, ending with her painful sleepless night.)

(iii) Change of mind. Children make an assertion and then use but to signal that they have changed their mind. Usually the adult asked if the child had had some specific type of experience; the child initially denied it and then thought of a relevant adventure and began narrating.

(31) E: Have you ever visited anybody in the hospital?
C: No, but I visited my mom when she had the baby.

(iv) Departure from the timeline to insert orientation, evaluation or an attention-getter.

(32) We went rollerskating but you know how much money she got?

(v) Return to the timeline.

(33) (A narrative about a fight with two other children with a digression in which the child debated about whether or not they were twins.) They weren't twins but all I know is that they fought and fought with me. ...

(vi) Misordered time. There is a violation of the chronological progression of events.

(34) We went to Florida but first we went to Texas.

6.1.2.2 Errors

The child uses but instead of a different connective that would have been more appropriate.

(35) They couldn't get a way out so we called dad but he heard us. (Should be and.)

6.2. Use of BUT in children's narratives

Frequencies and percentage use of each category (and group) are shown in Table 3. The majority of the children's uses of but fulfill semantic functions and this becomes increasingly true with age. Age changes in the frequencies of semantic versus pragmatic uses across the three age groups was again assessed by means of a chi-square calculation (Chi-Square = 14.33, df=2, $p < .001$). A third of the youngest children's uses are pragmatic, and this decreases to less than a fifth with the oldest children.

In addition, errors were common with the youngest age group. Recall that most errors with so involve contrast and require but; thus, it is at various times both inserted and omitted erroneously. Clearly this connective is more problematic to master than the causal ones.

7. Discussion

Some of the connectives in child speech serve dual roles: at times they encode semantic relationships between sentences, and at other times they serve pragmatic functions that manage the discourse as a whole. Other researchers have emphasized the role of pragmatic connectives in linking one person's turn in a dialogue (or multiple-party discussion) with the turn that went before (Eisenberg 1980, Gallagher & Craig 1987, Scott 1984, van Dijk 1979, 1981). In the present study these links between different speakers do occur, specifically in the category called 'opener.' However, most pragmatic uses are not inter-speaker links, although they do regulate narrator-listener interaction.

If the sequentially retold events or timeline of a narrative are conceptualized as one level of discourse, any movement to or away from this timeline is a change in discourse level. We have seen that three connectives are used to signal these changes in level of discourse: so is frequently used by children of all ages, because only occasionally, and but is often used, especially by younger children. The primary pragmatic functions of all three are to signal the initiation of a narrative or some part of it, and a change in

Categories	Age 3½ - 5½		5½ - 7½		7½ - 9½	
Semantic	(61)	(55%)	(123)	(77%)	(107)	(82%)
Semantic opposition	30	27%	56	35%	42	32%
Violate expectation	21	19%	48	30%	29	22%
Qualification	7	6%	10	6%	16	12%
Knowledge v reality	3	3%	9	6%	20	15%
Pragmatic	(37)	(33%)	(31)	(19%)	(23)	(18%)
Beginnings	(23)	(21%)	(15)	(9%)	(7)	(5%)
Opener	9	8%	8	5%	3	2%
Begin timeline	3	3%	1	1%	0	0%
New episode	3	3%	1	1%	0	0%
Change of mind	8	7%	5	3%	4	3%
Change of focus	(12)	(11%)	(13)	(8%)	(14)	(11%)
Depart timeline	10	9%	10	6%	7	5%
Return timeline	2	2%	3	2%	7	5%
Non-chronology	(2)	(2%)	(3)	(2%)	(2)	(1%)
Errors	(13)	(12%)	(5)	(3%)	(1)	(1%)

TABLE 3. BUT: Frequencies and percentages of use in each category (and totals for groups of categories)

focus from one level of discourse to another, i.e., a departure from or return to the timeline. Less frequently, each of these connectives is used to indicate some kind of violation of the strict chronology that the listener expects. In addition, so is used to signal the end of the timeline and a return to the present, often by means of a coda. In other words, these connectives signal a change of some kind between what went before and what is to come, a lack of cohesion. In contrast, previous research has found that the connective and appears to indicate the presence of cohesion between successive sentences (Halliday & Hasan 1976, Peterson & McCabe in press).

The relative lack of age differences in use of connectives was surprising. Children show competent semantic use of many connectives when linking appropriate utterances before 4 years of age (Bloom et al 1980, Clancy et al 1976, Eisenberg 1980, and Hood et al 1978). More relevant to this analysis is the fact that they semantically use the connectives because and so in the same ways across the age range studied here (4-9 years) as well as comparably to adults in the challenging there-and-then discourse found in narratives (McCabe & Peterson 1985, in press). Of more interest is the fact that they also use these connectives comparably for pragmatic purposes. Thus, children do not seem to first master the semantic uses of these connectives and then tackle pragmatic usage. Rather, both seem to be acquired simultaneously. This is consistent with the social interactionist perspective view of language learning (Bates & MacWhinney 1982, Gleason 1985, Snow & Ferguson 1977) which emphasizes children learning language within the context of social interactions; consequently, semantic and pragmatic language use would be intertwined.

The connective but was the only one to show developmental changes within the age range studied. Children make semantic mistakes in the preschool years (Peterson 1986); they also use but much more frequently than do older children for the role of narrative initiation. When my own son was 3 - 4 years of age, a sudden and unexpected declaration of but regularly signaled that a narrative was about to begin, and results of this study suggest that this is a common practice among preschoolers. In perusing the transcripts, it seemed that older children were more likely to initiate narratives with more ritualized or sophisticated beginnings such as one day or once when I was going .... Thus, early use of but for narrative initiation may perhaps be rather primitive albeit pragmatically appropriate. Appropriate and sophisticated use of this connective seems to be mastered at a later age than for the other connectives studied here.

Why are the connectives so and but seen as such versatile pragmatic markers? But of course fundamentally marks contrast, and all of the pragmatic categories noted in the data reflect some sort of contrast between what went before and what came after, i.e., there is a change or fundamental shift in the type of discourse to follow. This shift can be between here-and-now talk and the remote storyworld of the narrative, or it can be between the timeline and tributary information, or it can even signal that one's expectations of chronology are about to be violated. The rationale behind the heavy reliance on the connective so is not so transparent. Partly, pragmatic use of so models adult use. Auchlin (1981 - cited in Jisa 1987), Polanyi (1985) and Reichman (1985) have all found that adults at times use this connective after some kind of digression from the main topic of talk in order to mark a resumption of that topic. Children are using so in the same way here; this has also been found by Jisa (1987). Loosely conceptualized, so seems to be a boundary marker, and it is inserted at all the boundaries found in intra-conversational narratives that were noted here. In contrast, the connective because seems to be viewed as less flexible and more tied to its specifically causal semantic meaning. Although occasionally used pragmatically, this accounts for only 10% of its uses.

In conclusion, the child seems to have a conception of discourse as a multifaceted event with various levels, and this conception is learned very early. Some connectives can be used to signal such changes in level, and others can be used to signal the relatedness of sequential sentences within one level of discourse. This study suggests that greater attention should be given to children's acquisition of a conception of discourse as a multi-level occurrence, and of how these different levels may be signalled by means of the way propositions are pragmatically tied to the discourse as a whole.

ACKNOWLEDGEMENTS

The author would like to thank Michael Bruce-Lockhart for the development and use of the NARRAN software package. Further information about NARRAN or its availability can be obtained from the author. This research was supported by National Science and Engineering Research Council grant A0513. Address for correspondence: Psychology Department, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1B 3X9

REFERENCES

BATES, E., and B. MacWhinney. 1982. 'Functional approaches to grammar.' In E. Wanner and L. Gleitman (eds.), Language Acquisition: The State of the Art, 173-218. New York: Cambridge University Press.

BLOOM, L., M. Lahey, L. Hood, K. Lifter, and K. Fiess. 1980. 'Complex sentences: Acquisition of syntactic connectives and the semantic relations they encode.' Journal of Child Language 7:235-261.

BROWN, R. 1973. A First Language: The Early Stages. Cambridge, MA: Harvard University Press.

CLANCY, P., T. Jacobsen, and M. Silva. 1976. 'The acquisition of conjunction: A cross-linguistic study.' Papers & Reports on Child Language Development 12:71-80.

EISENBERG, A.R. 1980. 'A syntactic, semantic, and pragmatic analysis of conjunction.' Papers and Reports on Child Language Development 19:70-78.

FRENCH, L. and K. Nelson. 1985. Young Children's Knowledge of Relational Terms: Some Ifs, Ors, and Buts. New York: Springer-Verlag.

GALLAGHER, T.M. and H.K. Craig. 1987. 'An investigation of pragmatic connectives within preschool peer interactions.' Journal of Pragmatics 11:27-37.

GLEASON, J.B. 1985. The Development of Language. Columbus, OH: Merrill.

HALLIDAY, M.A.K. and R. Hasan. 1976. Cohesion in English. New York: Longman.

HOOD, L., M. Lahey, K. Lifter, and L. Bloom. 1978. 'Observational, descriptive methodology in studying child language: Preliminary results on the development of complex sentences.' In G.P. Sackett (ed.), Observing Behavior, Vol. I: Theory and Application in Mental Retardation, 239-263. Baltimore: University Park Press.

JISA, H. 1987. 'Sentence connectors in French children's monologue performance.' Journal of Pragmatics 11:607-621.

LABOV, W., and J. Waletzky. 1967. 'Narrative analysis: Oral versions of personal experience.' In J. Helm (ed.), Essays on the Verbal and Visual Arts, 12-44. Seattle: University of Washington Press.

MANDLER, J. and N. Johnson. 1977. 'Remembrance of things parsed: story structure and recall.' Cognitive Psychology 9:111-151.

McCABE, A. C. Peterson. 1985. 'A naturalistic study of the production of causal connectives by children.' Journal of Child Language 12:145-159.

---------- and ----------. 1988. 'A comparison of adults' versus children's spontaneous use of because and so.' Journal of Genetic Psychology 149:257-268.

PETERSON, C. 1986. 'Semantic and pragmatic uses of "but."' Journal of Child Language 13:583-590.

---------- and A. McCabe. In press. 'The connective "and" as discourse glue.' First Language.

---------- and ----------. 1987. 'The connective "and": Do older children use it less as they learn other connectives?' Journal of Child Language 14:375-381.

---------- and ----------. 1983. Developmental Psycholinguistics: Three Ways of Looking at a Child's Narrative. New York: Plenum.

POLANYI, L. 1985. Telling the American Story. Norwood NJ: Ablex.

REICHMAN, R. 1985. Getting Computers to Talk Like You and Me: Discourse Context, Focus and Semantics: (An ATN Model). Cambridge, MA: MIT Press.

SCOTT, C. 1984. 'Adverbial connectivity in conversations of children 6-12.' Journal of Child Language 11:423-452.

SNOW, C.E. and C.A. Ferguson. 1977. Talking to Children: Language Input and Acquisition. New York: Cambridge University Press.

STEIN, N. and C. Glenn. 1979. 'An analysis of story comprehension in elementary school children.' In R. Freedle (ed.), New Directions in Discourse Processing, 53-120. Hillsdale, NJ: Ablex.

VAN DIJK, T.A. 1979. 'Pragmatic connectives.' Journal of Pragmatics 3:447-456.

----------. 1981. Studies in the Pragmatics of Discourse. New York: Mouton.