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Managing Interaction: A Conversation Analytic Approach to the Management of Interaction by an 8 Year-Old Girl with Asperger's Syndrome¹

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This single-case study uses conversation analysis (CA) to investigate some of the interactional difficulties faced by children with Asperger's Syndrome (AS). Through an analysis of a single telephone conversation between an 8-year-old AS child and an adult and a peer, it shows the level of interactional complexity required in managing talk. It argues that although the AS child is, on one level, successful in phoning her friend to ask a question, the success of the interaction relies in part on the other interactants and their willingness to accommodate her different conversational norms. The study demonstrates how CA can be a useful tool for understanding some of the interactional difficulties faced by AS children and adults alike.

Asperger's Syndrome (AS) is generally considered to be at the higher end of the autistic spectrum. Its main defining characteristic is social impairment, with a lack of social interaction, social communication and social imagination being central to any description of Asperger's Syndrome (Attwood, 1998; Frith, 1991; Gillberg, 1989; Wing, 1981; 1991). Difficulties in social interaction and communication include socially and emotionally inappropriate behaviours, lack of appreciation of social cues, inability to interact with peers or to develop peer relationships, and an impairment in the ability to use non-verbal behaviours and to regulate social interaction (American Psychiatric Association, 1994, *Diagnostic and Statistical Manual of Mental Disorders, 4th ed. [DSM-IV]*; Attwood, 1998; Frith, 1991; Wing, 1981).

Although language development for AS children appears to follow normal paths (*DSM-IV*), such children have problems with specific language skills. In terms of language, children with AS have often been described in a variety of ways, including talking too little or too much, having "odd speech," using idiosyncratic words, and having repetitive patterns of speech (Szatmari, Brenner, & Nagy, 1989). But their most significant difficulty is in terms of using language within the social context. In particular, they appear to have difficulty in maintaining a topic, "repairing a conversation...coping with uncertainty or mistakes...overcoming a tendency to make irrelevant comments...[or] knowing when not to interrupt" (Attwood, 1998, p. 69). However, although such features of language use have been described and are part of the diagnostic criteria for ascertaining whether or not a child has AS (e.g., Attwood, 1998; *DSM-IV*), very little research has focussed on the actual communication difficulties faced by AS children as they interact with

those around them.

Previous research has examined some of the communication difficulties faced by pragmatically impaired and autistic children with respect to their use of language within the social context (e.g., Baltaxe, Russell, D'Angiola, & Simmons, 1995; Bishop & Adams, 1989; Eales, 1993; Landry & Loveland, 1988; Siegel, Cunningham, & Van der Spuy, 1985). Recently, much research has been carried out on social difficulties experienced by adolescents and children on the autistic spectrum, including those with AS. Such research has predominantly focussed on issues of social integration for children and adolescents with AS (e.g., Attwood, 2000; Boderick, Caswell, Gregory, Marzolini, & Wilson, 2002; Carrington & Graham, 2001; Chandler, Christie, Newson, & Prevezer, 2002; Greenway, 2000; Koning & Magill-Evans, 2001; Sofronoff & Farbotko, 2002; Stoddart, 1999), although some experimental research into specific language issues has also been carried out (e.g., Stone & Yoder, 2001; Thurber & Tager-Flusberg, 1993).

However, very little research has focussed on ways in which children with AS manage interaction, although Conversation Analysis (CA) is increasingly being used as a way of highlighting specific interactional issues for people with communication disorders (e.g., Heeschen & Schegloff, 1999; Schegloff, 2003), for people with aphasia (e.g. Beeke, Wilkinson, & Maxim, 2003; Goodwin, 1995; Perkins, Crisp, & Walshaw, 1999), and as a potential means of assessing communication breakdown after closed head injury (Friedland & Miller, 1998).

A few CA studies have been carried out on autism, either as case studies or as part of larger ethnographic studies focussing on specific issues of language. For example, Local and Wootton (1995) and Tarplee and Barrow (1999) use case studies to examine echolalia in autistic children; Dobbins, Perkins, and Boucher (1999) also use CA in a case study of a woman with autism, in which they focus on the structural patterns of her conversations. As part of a larger study, Ochs, Kremer-Sadlik, Solomon, and Sirota (2001) used CA to draw attention to the manner in which children with High Functioning Autism (HFA) were reacted to by their peers within the school situation. Solomon (2001) examined narrative introduction practices of children with autism and AS, and Kremer-Sadlik (2001) carried out an ethnographic study on how children with autism and AS responded to questions.

However, although the literature on Asperger's Syndrome indicates overwhelmingly that AS children have difficulties with social interaction, there seems to be very little analysis of what such difficulties might actually entail. Previous CA studies have tended to focus on specific aspects of communication but have provided little information as to the actual interactional issues faced by AS children as they attempt to interact with the world around them. The current study aims to show what it is that AS children are actually doing as they talk, by analysing what actually occurs when one AS child talks to two other interactants. In so doing, the study focuses on the ways in which this particular AS child locally and interactionally manages talk within an everyday situation.

CONVERSATION ANALYSIS

Conversation Analysis is a useful technique for analysing everyday conversation in that it shows the “technology” of the interaction (Sacks, 1984, p. 413). In other words, through detailed analysis of actually occurring talk-in-interaction, CA provides a structure for analysing the way in which two-way interaction operates. It shows how participants in conversation do not simply take the role of *speaker* or *hearer*; rather they mutually orient to and collaborate with other participants within the interaction to achieve orderly and meaningful communication (Goodwin & Heritage, 1990). Previous analyses of ordinary, everyday conversation have demonstrated the ability of participants within an interaction to locally and interactionally manage emerging talk (e.g., Atkinson & Heritage, 1984; Goffman, 1981; Sacks, Schegloff, & Jefferson, 1974). If problems within the interaction arise—problems to do with the turn-taking mechanism or with the content of the talk—such problems are predominantly dealt with by participants as they emerge. Being able to correctly repair the interaction as it emerges within the ongoing talk ensures that the interaction proceeds smoothly.

In order to highlight these issues in the interaction under discussion, previous analytic findings of CA will be briefly presented.

Turn-Taking

Turns at talk are both context-shaped, in that a turn exists within the context of a prior turn, and context-renewing, in that any turn becomes the context for the turn which follows (Heritage, 1989, p. 21). Thus the turn-taking system ensures that speakers will design each turn to build on the context of prior turns at talk and that hearers will attempt to understand a turn with reference to the sequential context provided by the prior turns (Heritage, 1984). One of the key questions that is asked when attempting to understand a speaker’s turn at talk is, “Why do this now?” (Schegloff, 1995). In other words, CA places emphasis on the fact that a hearer interprets the meaning of an utterance in light of the previous utterances. This is particularly evident in adjacency pairs.

Adjacency Pairs

Paired utterances such as questions and answers are known as adjacency pairs (Schegloff & Sacks, 1973). The form of the adjacency pair consists of a first pair part (FPP) and a second pair part (SPP). The nature of a FPP is such that it makes relevant a next action, a SPP. However, there are constraints on the form of the action. In the case of questions, for example, the answer cannot be just *any* answer—the SPP must be an appropriate answer to the question. Thus a FPP initiates some action and makes some next action relevant; the SPP in turn responds to the prior turn and completes the action which was initiated in the first turn. It is the two turns together that accomplish the action, and it is to this basic sequence that participants within conversation orient in developing their talk (Heritage, 1984).

Turn Allocation Rules

In their turn-taking model, Sacks et al. (1974) argue that conversation is an orderly, rule-governed process. Turns are made up of bits of talk. These minimal units are called Turn Construction Units (TCUs), the composition of which are highly context-dependent. Once a speaker has begun to speak, she or he has the right to produce one potentially complete bit of talk or TCU. Sacks et al. hypothesize turn allocation rules that speakers orient to, such that at the end of a TCU another speaker can take the floor, either through "current speaker selects next speaker" (for example, by asking a question, a FPP), or through self-selection (for example, when a speaker initiates a new topic). The rules are such that turn transfer is accomplished with minimal gap and minimal overlap. Precisely timed speaker change is achieved because participants in the interaction orient to when a turn might be possibly complete, in other words, to the Transition Relevance Place (Sacks et al., 1974). By orienting to when a turn is possibly complete, speakers are able to anticipate turn-transition, and so minimise the possibility of overlapping talk or inter-turn silences.

Inter-Turn Silences

Because FPPs, due to their primary role in the adjacency pair sequence, make a subsequent action relevant as a next action, it follows that if there is no subsequent action, it will be seen as being in some way missing or "absent." The absence of talk is seen as accountable (Schegloff & Sacks, 1973), in that the absent SPP, as well as the accompanying silence, "belongs" to the participant who should have produced relevant talk at this point in time. As Jefferson (1989) has noted, the "standard maximum" of silence in conversation is about 1.0 second. In other words, participants orientate to the length of time between turns at talk, such that if it is too long, they do interactional work to manage the problem.

Repair

All levels of conversation are potentially subject to difficulties and problems. These may be at the word level, for example, when a speaker is unable to remember a word or provides incorrect information, or at the interactional level, for example, when a speaker does not provide an answer to a question or when the pause between turns at talk is too long. In the latter case, if no talk is forthcoming following a FPP, the accountability of the missing turn means that interactional work needs to be done to "repair" the trouble source. Such repair work may emanate either from the producer of the FPP, for example by repeating the question, or it may emanate from the person who has the responsibility of producing a SPP, for example by providing an excuse as to why no answer was forthcoming (Schegloff, Jefferson, & Sacks, 1977).

Child Conversations

The above turn-taking model is based on adult-adult interaction. An issue relevant for the current analysis is whether children orient to an equivalent turn-taking system. In other words, is it possible to assume that the same features of talk-in-interaction will automatically be present in adult-child interaction or in child-child interaction? Unfortunately, there is not a great deal of CA research on child-child interaction (c.f., Goodwin, 1990), although researchers seem to assume that above about the age of 4 years, children have acquired the essential rules of language (Goodwin, 1990). However, as children develop, their communicative competence also develops, such that older children are more likely to produce extended sequences of contingent talk. In other words, they are more able to respond to questions, commands and statements, as well as to have an awareness of the discourse expectations involved in such activities (McTear, 1981, p. 192).

In terms of the mechanics of conversational management, Garvey and Berninger (1981) showed that the switching pause between speakers varies both according to the age of the child and to the nature of the response. Younger children (2;10 years – 3;3 years) took longer to respond to questions or comments than did older children (4;7 years – 5;7 years), and more complex responses required longer response times than did simpler responses. By the time the children were about 5 years of age, however, they were very close to approximating the norms of adult conversation (Garvey & Berninger, p. 40). Garvey and Berninger also measured the time taken for a child to repair a partner's lack of response. They found that intraturn gap also decreased in length as the child developed, with children aged from 4;7 years to 5;7 years waiting only 0.8 to 1.5 seconds before again attempting to elicit an expected response. In other words, at this age, the gap appeared to be only slightly longer than the maximum time of 1.0 second for adults (Jefferson, 1989). One issue that arose was how children anticipated the end of a TCU. Garvey and Berninger (1981) suggest that children may be less able to anticipate possible syntactic completion, as evidenced by their finding that overlap was rare and that if it did occur at the beginning of a turn, it terminated quickly. Jamison (1981, cited in McTear, 1985, p. 161) also found that overlap was rare and that as children got older, the possibility of overlap increased as they were better able to anticipate possible completion.

However, McTear (1985) argues that even at a young age, children are proficient turn-takers. He showed, for example, that two children aged 5;5 years and 5;1 years were able to monitor their turns in progress for projected completion, as demonstrated by their ability to latch talk onto the previous speaker's talk and to monitor their turns for projected content, as demonstrated through their use of collaborative completions. He also showed that the children demonstrated precision timing at turn-beginnings (Jefferson, 1973) and that if they were speaking in overlap, one of the children would relinquish the floor in accordance with Sacks et al.'s (1974) turn-taking rule of only one speaker at a time.

In terms of topic initiation, Bloom, Rocissano, and Hood (1976) found that

whereas two-year-olds did not sustain a topic initiated by adults, by the age of three, children could sustain successive turns by adding new information to an adult's utterance. However, their ability to construct joint communication activities with other interactants varied according to the identity of the other interactant in the conversation, with adults and more experienced peers providing more assistance or *scaffolding* for the younger child (Budwig, Strage, & Bamberg, 1986). For example, although toddlers require a fair amount of guidance from more capable interactants, as children develop, they can manage and regulate interaction without the guidance or scaffolding of the more experienced interactant. Budwig et al. argue that any evaluation of a child's ability to construct joint communication must take into account whom the child is interacting with.

As shall be shown in the data, both the AS child and her friend demonstrate that they are able, when required, to follow the "rules" of conversation as they mutually orient to and collaborate with other participants within the interaction to achieve orderly and meaningful communication. However, the data will also show that at times the AS child relies on the other interactant to do *more* of the interactional work. As a result, the conversation can tend to be one-sided, with the other participants within the conversation having to do extra interactional work when things do not proceed according to plan. The following analysis will focus on turn-taking and timing, and will show how the AS child sometimes does not always respond to questions or other FPPs, or waits longer than usual before responding. It will highlight some of her difficulties in engaging in topics and her lack of strategies for dealing with interactional problems as they arise, as well as demonstrating how different interactants can affect the conversational outcome.

METHOD

The data consist of a telephone conversation between two 8-year-old children, Suzy and Tiffany.² Suzy has been diagnosed with Asperger's Syndrome in accordance with DSM-IV. Her language development was normal, and she is a student in the mainstream educational system. Tiffany is her closest friend. They sit next to each other at school and walk to and from school together. Their mothers are friends and regularly arrange for them to play with each other after school. The children have known each other for 3 years.

The data were collected as part of a small research project examining how AS children manage everyday interaction. Both Suzy and Tiffany knew that at some stage they were going to be recorded, although only Suzy and her mother knew at the time of the conversation that comprises the current data that the recording was taking place. All participants gave informed consent.

ANALYSIS

Adult-Child Conversation

Suzy had been sick, and as a result had been away from school the previous day, which was also the last day of term before the Easter break. Because she was not at school, Suzy had not been able to collect her coloured Easter egg from the classroom. She rings up her friend to ask her if she has collected her egg for her.

Providing a SPP

The following extract is taken from the beginning of the conversation.³ Suzy rings the number and initially talks to Tiffany's mother, prior to asking to speak to Tiffany.

(1) [F&S]

- | | | |
|----|----|--|
| 1 | M: | hell:o:.. |
| 2 | S: | hello. (.) it's Suzy. |
| 3 | M: | hello Suzy,=did you just call a minute ago an' |
| 4 | | then hang up? |
| 5 | | (1.6) |
| 6 | S: | y:es:, hh |
| 7 | M: | <u>wh</u> y did you do <u>th</u> at. |
| 8 | → | (4.0) |
| 9 | M: | ↑yoo hoo:.,↓ |
| 10 | S: | he he .hh |
| 11 | M: | are ya <u>th</u> ere? |
| 12 | S: | ye::s, hhh |

Suzy has just rung the number and is speaking to Tiffany's mother (M). However, this is the second time she has rung. Suzy had rung a few minutes earlier but had hung up the phone before M answered it. As soon as M responds to the greeting and identification sequences in the opening, she straight away asks Suzy if she rang a few minutes ago (lines 3-4). Suzy pauses 1.6 seconds before replying with a minimal "y:es:," (line 6). Although Suzy's response is perfectly acceptable, an account as to *why* she rang earlier might be expected in such circumstances and, in fact, M orients to the absence of an account by explicitly prompting for one in line 7. Suzy however, does not immediately answer the question (arrow), which means that the action being undertaken by the question-answer adjacency pair is incomplete. Interactionally, this is problematic, and according to the Sacks et al. (1974) turn-taking model, Suzy is accountable for not having produced a SPP.

It is possible that Suzy does not understand what is required of her at this point. Maybe she does not realise that she is required to provide some sort of an answer to the question, even if she does not know the answer or may not want to answer it. However, as evidenced by her side comments later in the conversation

while she is waiting for Tiffany to come to the phone, she does seem to understand that M is asking her a question at line 7, and that she is responsible for answering it. In lines 41-43, Suzy tells the other person in the room that M asked why she rang up and then put the phone down. She goes on to say “n I couldn’t explain it prop’ly” (line 42-43).

(2) [F&S]

38. S: °she’s just getting Tiffany:° ((talking to person in the room))
 39. (1.6) °Margaret.° hh ((talking to person in the room))
 40. (1.6)
 41. S:→ uhm she asked .hh why hh .hh hh I-I rang up and then put
 42. → the phone do::wn_z heh heh ugh, ‘n I couldn’t explain it
 43. → prop’ly. hh .hh ((talking to person in the room))
 44. (5.4)

This extract shows that although Suzy was not able to respond appropriately in line 7 (Extract 1), she shows a clear metalinguistic awareness of what is required in response to a FPP. In other words, she demonstrates a clear understanding of the rules of turn-taking. However, as Extract 2 makes clear, Suzy’s interactional problem at line 7 is that she cannot answer the question because she does not know how to explain what happened. But instead of providing some sort of response, such as “I don’t know” she remains silent for 4.0 seconds (line 8). Although this silence clearly belongs to Suzy, it is M who repairs the interaction by asking if Suzy is still there. M’s action at line 9, a summons, indicates that she sees the possible problem as being that Suzy is no longer attending to the conversation, and her “↑yoo hoo::,↓” is an attempt to re-engage Suzy’s attention.

Suzy responds to the “↑yoo hoo::,↓” summons with laughter (line 10). But although this is a sort of a SPP, in that it at least indicates that S is still on the phone, M seems to require further confirmation that Suzy is attending, because she follows up the summons/answer adjacency pair with a further question, “are ya there?” (line 11), to which Suzy responds with an elongated “ye::s,” (line 12). It is only at this point, following the repair of the interaction due to the missing SPP, that the mother is able to resume the normal flow of the conversation. But once again, things do not progress very smoothly, as the following extract indicates.

(3) [F&S]

13. M: → what happened.
 14. S: heh heh
 15. M: got the giggles.
 16. S: heh heh heh
 17. M: or the cries.
 18. (1.0)
 19. M: are you crying or giggling.
 20. S: heh heh heh .hh [heh heh heh heh]=
 21. M: [I hope ya laughing.]

22. S: =heh heh heh .hh
 23. M: what can I do for you Suzy?
 24. S: uhm (2.4) .hh can I talk to Tiffany?
 25. M: yes.=are you better no:w?

Having ascertained that Suzy is still attending, M asks her, “what happened” (line 13), although it is not clear as to whether this is a rephrasing of the original FPP in line 7 (i.e. what happened when Suzy hung up the phone), or whether it is a new question wanting to know what happened in line 8 while she was silent.

Regardless of what the question is referring to, once again Suzy does not provide a SPP, although she does seem to indicate that she knows that a response is required, by once again providing a laughter token in the position of the SPP (line 14). As before, however, laughter does not move the conversation forward, and M supplies a possible explanation as to why Suzy is not able to respond to the FPP, by suggesting that Suzy has “got the giggles” (line 15) “or the cries” (line 17). This possible reason is then expanded upon and becomes the focus of a further question, “are you crying or giggling?” (line 19). But once again, this is not responded to, except with laughter. At this point M provides her own assessment of the situation “I hope ya laughing” (line 21), before moving on to the reason for the call, “what can I do for you Suzy?” (line 23).

The above examples demonstrate that in spite of the difficulties, Suzy appears to know and understand the rules of turn-taking. This is evidenced not only by her appropriate responses to the questions in line 3-4 and line 23, but also by the side comments while M is getting Tiffany (Extract 2). But the examples also show that when Suzy is confronted by a difficult interactional situation in which she cannot, for whatever reason, produce a SPP, she does not seem to be able to manage the problem or to do the necessary work to repair the situation. In the above examples, it is M who “comes to the rescue” by providing possible reasons for the non-supply of an appropriate response. In other words, the mother takes over the responsibility for the breakdown in the interaction and eventually terminates the sequence, by leaving the questions in lines 7, 13, and 19 unanswered and choosing to move on to the topic of the call (line 23).

Silences

The above examples also highlight another interactional issue, namely, “What is the ‘normal’ length of the inter-turn pause for this child?” According to Sacks et al. (1974), turn exchange occurs with minimal gap and minimal overlap. Garvey and Berninger (1981) also showed that even children as young as 5 years of age are able to orient to the norms of adult conversation. In terms of how long an interactant is prepared to wait before prompting a person to respond, Jefferson (1989) showed that the standard maximum for adults is about 1.0 second silence, although for younger children (5-year-olds) research has shown that the intra-turn pause is slightly longer, 0.8 – 1.5 seconds (Garvey & Berninger). However, Garvey and Berninger also showed that the intra-turn pause decreases in length

as the child develops.

The data seem to indicate that Suzy waits longer-than-normal before responding, although it also appears as if M is willing to accommodate this longer-than-normal pause. For example, in line 5, Suzy waits 1.6 seconds before providing an answer.

(4) [F&S]

3 M: hello Suzy,=did you just call a minute ago an'
4 then hang up?
5 → (1.6)
6 S: y:es:, hh

M does not hurry this gap in the conversation by choosing to self-select earlier; rather she waits for Suzy to provide a SPP. Similarly, M does not intervene in line 24.

(5) [F&S]

23 M: what can I do for you Suzy?
24 S: → uhm (2.4) .hh can I talk to Tiffany?

Although Suzy initially says "uhm" to hold her turn, she then pauses for 2.4 seconds. This is followed by an inbreath before Suzy indicates that she wants to talk to Tiffany. Although, from an adult perspective, the delay is quite long, M does not treat the delay as problematic, and she allows the space for Suzy to provide her response.

M's willingness to wait for longer than might normally be expected is possibly due to the fact that, as the more experienced interactant, she is adjusting her talk to the interactional demands of talking to an 8-year-old child (Budwig et al., 1986), by accommodating to the needs of the situation. However, the data show that even for M, there is a point at which the pause is too long, as in line 8.

(6) [F&S]

7 M: wh:y did you do that.
8 → (4.0)
9 M: ↑yoo hoo::,↓

In this case, following a 4.0 second pause, M intervenes. It appears, therefore, that for M, 4.0 seconds has exceeded the limit of how long she is willing to wait for a response.

It should, however, be noted that Suzy does not always require additional time before responding to a question. For example, in line 12 she responds with minimal gap:

(7) [F&S]

11 M: are ya there?
12 S: ye::s, hhh

In addition, when she responds with laughter, this is also done with minimal gap:

(8) [F&S]

13 M: what happened.
14 S: heh heh

(9) [F&S]

19 M: are you crying or giggling.
20 S: heh heh heh .hh [heh heh heh heh]=

Previous research has shown that 5-year-old children are capable interactants, able to manage precision timing at TRPs and with inter-turn pauses only slightly longer than for adult conversations (Garvey & Berninger, 1981; McTear, 1985). Indeed, Suzy has demonstrated that she is also able to respond appropriately at times.

It appears, however, that Suzy responds more easily to some types of questions than others. For example, she appears to respond appropriately to *yes/no* questions (as in lines 3 and 11) or to expected questions (as in line 23). However, unanticipated questions appear to be more problematic, as in lines 7, 13 and 19. Garvey and Berninger (1981) similarly noted in their study that the nature of the expected response affects the length of the inter-turn pause. They found, for example, that simple, more predictable exchanges, such as a summons or a request for repetition, had a shorter response time, whereas less predictable questions, such as a *yes/no* question or a *wh-* question had a longer inter-turn pause with greater frequency of hesitations, false starts, and rephrasings. However, they also noted that this variability between types of questions decreased as children became older (up to 5;7 years), suggesting that as children develop, they are increasingly able to control the interaction.

The interactional difficulties experienced by Suzy, together with M's control of the interaction, seem to reflect the nature of adult-child interaction. As indicated by Budwig et al. (1986), adults tend to be more supportive when interacting with children who have not yet fully developed their conversational skills. In this instance, through her inability to appropriately respond to questions, Suzy indicates that she has not fully developed these skills, so it is not surprising that the adult is more supportive. The following section will examine what occurs in a child-child interaction, as Suzy talks to her friend Tiffany.

Child-Child Conversation

Similar interactional difficulties arise when Suzy talks to her same-aged friend. After exchange of *hellos* (lines 45 and 56), there is a 1.0 second silence.

(10) [F&S]

45 T: hello:,
46 S: hello::,
47 → (1.0)
48 T: .hh uhm ye:s, who is it_i

one would respond to the Miss Jane performance. The pause therefore does not belong to either participant, although it is Tiffany who once again indicates that there may be a problem. After 2.8 seconds, she says “Su:zy::?” rather quizzically (line 66) to which Suzy answers “yes” (line 67). This is followed by Tiffany confirming that Suzy is still there (line 68). Suzy replies that she is and the sequence is closed by Tiffany saying “good.” (line 70).

Already, therefore, there seem to be difficulties with this conversation as well, although Suzy manages to get back on track at line 72 by starting to give her reason for call.

(12) [F&S]

68 T: ya still there?
 69 S: ye:s,
 70 T: good.
 71 (1.2)
 72 S:→ I wanted t’a::sk, hh (1.2)
 73 T: Suzy guess what you missed.
 74 S: wha’

As in the previous excerpt, Extract 12 shows how Suzy seems to orient to longer pauses than does Tiffany. Although Suzy self-selects after a 1.2 second pause (line 71) by moving onto the reason for call, she is not able to complete her pre-request due to her long intratum pause of 1.2 seconds (line 72). As a result, Tiffany self-selects (line 73) and Suzy loses her opportunity to ask her question.

Suzy’s orientation to longer-than-normal pauses means that Tiffany self-selects when the pause becomes too long. As was the case for M, Tiffany has also found it necessary to ask Suzy whether she is still on the phone (Extract 11). Twice therefore in this conversation Suzy’s interactants have not been sure if she is attending, and twice Suzy has replied that she is, although she has provided no explanation as to possible difficulties. Her replies are a simple elongated “ye:s” in both instances (lines 12 and 69). Thus, even at this early stage of the conversation, there are indications of the high level of interactional work that is being required from the non-AS participants.

On two other occasions within the 4-minute conversation Tiffany checks whether Suzy is still there. The first instance occurs following a further breakdown in the conversation. In line 85, Suzy asks her question, the topic of the call, “did you bring back my boiled e:gg?”

(13) [F&S]

82 T: yeah.=what did you want me [to a::?-what] do you=
 83 S: [uhm hh]
 84 T: =want t’ ask?
 85 S: → did you bring back my boiled e:gg?
 86 T: boiled e::gg. ahh
 87 S: the coloured ones.

- 88 T: what colour was it.
 89 (1.0)
 90 S: .hh orange.
 91 T: .hh Suzy I hate to say this, but agh the ones who- the
 92 one that didn't get collected. 'cos they were boi:led. uhm
 93 the ones that didn't get collected were got thrown out,
 94 an' mine and yours got thrown out,
 95 S: oh- o[kay]
 96 T: [I] was he::re today. I was at school today. but I
 97 was at the (.) blackboard, cleaning, with Lara, an' I didn't
 98 hear her .hh so mine got thrown out.
 99 (1.0)
 100 T: >so did yours. sorry.<
 101 (1.0)
 102 S: [that's] okay.
 103 T: [but]
 104 (0.3)
 105 T: .hh Suzy we also got re:cipes of how to do: a:, (0.8)
 106 how to do: it. so you missed the recipes too. but I didn't
 107 get a uhm (0.8) .hh recipe. >so don't worry.<= °uhm,°
 108 (4.0)

Tiffany provides a dispreferred response to Suzy's question as to whether she brought back the boiled egg (line 85). Such dispreferred responses usually involve delay and require additional interactional work (Pomerantz, 1984; Sacks, 1987). First of all, Tiffany delays her response by doing a partial repair (line 86) before checking the colour of the egg (line 88). Both of these insert sequences serve as delaying devices (Sacks, 1987). Tiffany then delays her response even further by couching her response with hedges, explanations, and apologies (lines 91-94). She eventually indicates in line 94 that the eggs got thrown out.

Suzy responds appropriately to the dispreferred response (line 95), but Tiffany goes on to provide additional reason as to why the eggs got thrown out (lines 96-98). This additional explanation is not however responded to, and a 1.0 second silence ensues. This silence may have been interpreted by Tiffany as disapproval, because she self-selects and continues with a further explanation and apology (line 100). After another 1.0 second pause, both S and T self-select in overlap. Suzy says "that's okay." (line 102), but Tiffany continues to provide additional explanation (lines 105-107), as if the pause at line 101 was still being interpreted as an indication of disapproval.

A number of points emerge from this example. Firstly, Tiffany's reply to the "egg" question shows that this 8-year-old clearly knows how to indicate a dispreferred response by extending the distance between the FPP (the question) and the SPP (the negative answer). Her ability to do dispreferreds contrasts sharply with Suzy's inability to provide appropriate responses at the beginning of the call to M's questions (lines 7 and 13). In other words, Tiffany's response in the face of the

question “*did you bring back my boiled egg?*” is to stall for time, by asking for clarification, with hedges, false starts, and excuses. In contrast, when Suzy is unable to answer M’s questions, she is silent. This shows that for the same-age children, the interactional resources available to the AS child may not be as developed as for her non-AS peer.

However, it is not the case that Suzy is totally unaware of how to manage conversational interaction. In line 95 (Extract 13), for example, she responds quite appropriately and without delay to Tiffany’s explanation as to why she did not bring Suzy’s egg home. This is important in that it indicates that in some circumstances Suzy is aware of, and can appropriately manage, what is interactionally required. For example, during the telephone conversation, Suzy has indicated that she is able to orient to the interaction underway by appropriately responding to yes/no questions in lines 3, 49, 68, and to predictable questions (line 23). She also responds to a pre-telling with a go-ahead in line 74. She times her laughter to be in the SPP slot in lines 10, 14 and 20. Finally, in line 102, she indicates that she is able to orient to the 1.0 second silence following additional information as part of the dispreferred response. In other words, Suzy seems to indicate that she understands the “rules” of conversational management and at times is able to orient to such rules.

The interaction depends in part, however, on the skills and level of experience of the other interactant. The data indicate that jointly constructed talk is possible when Suzy talks to M because any problems and difficulties are interactionally managed by M. Suzy’s talk with her peer, however, is less successful, and during the rest of the conversation it is possible to see how the conversation falters when Tiffany once again has to check if Suzy is still there.

At line 107, Tiffany latches a quiet “*°uhm°*” onto her final, faster comment “*so don’t worry.*”, raising the possibility that she is going to go onto further talk. However, no talk on Tiffany’s part ensues. But Suzy does not talk either. At this point, Tiffany appears to abandon the two-way interaction.

(14) [F&S]

107	T:	get a uhm (0.8) .hh recipe. >so don't worry.<= °uhm,°
108		(4.0)
109		hh
110	T:	(4.0) ((whispering))
111		cho chok ko nol li ga jal,
112	T:	(5.0) ((whispering))
113	→	are you still there _i
114	S:	ye:s,
115	T:	are you listening,
116	S:	kind of,

Following the 4.0 second pause, Tiffany exhales and then whispers to herself (lines 110-112). At line 113, after an effective pause of 13.0 seconds, Tiffany asks Suzy, “*are you still there_i?*”, to which Suzy replies with an elongated “*ye:s,*” (line

114). Tiffany then asks if she is listening, to which Suzy answers with “kind of,” (line 116).

Although Suzy is not required to initiate a topic following Tiffany’s complex dispreferred response (lines 86-107), Tiffany has certainly provided her with a number of possible topic options that could be taken up, for example, in response to the excuses and additional information about the egg. But Suzy does not initiate a new topic. This may be interpreted by Tiffany as an ongoing indication of disapproval, because Tiffany does not initiate a new topic either, and during Tiffany’s whispering episode, Suzy does not try to re-engage her at all. There are no attempts to take a turn and to move onto another topic. It is as if having received her answer to the question about the egg, Suzy’s reason for calling has been realised, and she has no reason for further talk.

Even after Tiffany checks that Suzy is still listening (line 115), Suzy does still not attempt to take the turn.

(15) [F&S]

- 115 T: → are you listening,
 116 S: kind of,
 117 T: dum de dum um not available for your month please
 118 arrange a swap and notify the con::veyers there’s of
 119 the previous month=dju wan’ me t’ g_o no:w_i
 120 (0.4)
 121 T: can we go:ɿ ‘co
 122 S: yeah.

Tiffany does not continue the interaction either, however. Once again she appears to abandon the conversation, choosing instead to read from a pamphlet (lines 117-119).

In line 119, Tiffany moves straight into “dju wan’ me t’ g_o no:w_i”, latching her question onto her reading-aloud talk. This is not immediately responded to, and Tiffany only waits 0.4 seconds before repeating the question (line 121) in a slightly different form. This time the request is responded to with a minimal “yeah” (line 122).

(16) [F&S]

- 121 T: can we go:ɿ ‘co
 122 S: yeah.
 123 T: → the students aren’ very well beha::ved. (0.8) heheh so
 124 → (0.2) bye, I’ll see you: .hh in 300 days time. right?
 125 (1.8)
 126 T: you [still there:ɿ]

Tiffany then goes on to give an account of why she wants to close the conversation in terms of the make-believe children in the boarding school. Thus interactionally, she indicates she knows how to close a conversation, by moving into a

closing implicative environment (Schegloff & Sacks, 1973). She provides a reason for going, “the students aren’ very well beha::ved.”, a goodbye token, “bye”, and an arrangement, “I’ll see you: .hh in 300 days time.” However, a closing is an interactional event and can only be successfully achieved if both parties agree to close the conversation. Prior to this point Suzy has indicated that she is ready to go (line 122) but the closing has not yet been collaboratively achieved. In line 124, Tiffany completes her closing rationale and arrangement by checking if Suzy is in agreement. However, Suzy does not immediately respond. After 1.8 seconds, Tiffany asks for the fourth time in the conversation, “you still there?” (line 126).

This time there appears to be a reason for the delayed response in line 125, as the next example indicates.

(17) [F&S]

- 123 T: the students aren’ very well beha::ved. (0.8) heheh so
 124 (0.2) bye, I’ll see you: .hh in 300 days time. right?
 125 (1.8)
 126 T: → you [still there_z]
 127 S: [no. hh]
 128 T: alright by::e.
 129 S: by:e.
 130 T: bye. hang up.
 131 (0.6)
 132 S: I’ll see you at Annie’s party.
 133 (1.0)
 134 T: maybe:, (2.6) oh yea::h. Annie’s party. .hh quick. hang
 135 u:p.
 136 (1.0)
 137 S: why.
 138 T: .hh °->because I’ve got t’ get the invitation for Annie’s
 139 party. I forgot to get it.<°
 140 S: hh okay. by::e.
 141 T: bye.

As Tiffany asks whether Suzy is there, the reason for the longish pause of 1.8 seconds becomes apparent. In overlap, Suzy responds to Tiffany’s comment about seeing each other in 300 days. Clearly 300 days is incorrect and Suzy indicates this by saying “no.” (line 127). One feature of people with AS is that they find joking difficult and regard knowing about facts as important (Attwood, 1998, p. 114). Here it is possible to see both these aspects combined. It is possible that Suzy does not recognise the joking nature of the comment; she takes the comment at face value and responds accordingly. She needs to correct the “300 days” comment, although she does not do it immediately. She responds to the closing sequence with the “bye” token, but does not hang up, although Tiffany instructs her to do so (line 130). Instead, Suzy corrects the “300 days” comment

by saying "I'll see you at Annie's party" (line 132). This then provides another reason for closing the call due to Tiffany's urgency in getting the party invitation.

CONCLUDING REMARKS

Preliminary analysis of the 4-minute telephone conversation between a child with AS and two other participants highlights some of the issues for the AS child. This 8-year-old girl with AS indicates that at one level she can interactionally manage the task of telephoning a friend to ask a specific question. For example, she can usually answer *yes/no* questions, as in, "Are you there?" or questions that are in some way expected, for example, "What did you want to ask?" She can sometimes initiate repair, as when she corrects the 300 days comment, and on occasions, she is able to orient to the expected length of time between turns by providing a response without delay. Overall, therefore, she successfully manages the interaction and is successful in getting the information she wants.

But not all aspects of the interaction proceed according to plan. The main issue seems to be that although the rules of turn-taking are present, as evidenced by her ability, on occasion, to respond appropriately and promptly to FPPs, for Suzy, the standard length of silence between turns is longer than for non-AS interactants. In some cases (as with M) her interlocutors accommodate this need for a longer-than-normal pause, and so no interactional problems arise. In other cases (as with Tiffany) there is less evidence of accommodation and the potential for breakdown is more likely. Although the literature suggests that 8-year-old children orient to very similar conversational norms as do adults, and there is evidence in the data itself to support such a view, Suzy clearly seems on occasion to require a longer time before producing her response. It therefore depends on the willingness of the other participant whether this extended time is accommodated or not.

Even given that Suzy seems, on occasion, to orient to a longer-than-normal inter-turn pause, there are occasions in the data where her response to a question does not seem to be forthcoming: Suzy, for whatever reason, is unable to supply the required SPP. Nor does she seem to be able to provide an account as to her difficulty in providing a response. Suzy could, for example, indicate that she does not know the answer when required to respond to a difficult question, or she could give some indication that she is aware that an extended pause is problematic. Her aside during a pause in the main telephone conversation indicates that she is aware of the difficulty. Thus, it appears that Suzy lacks strategies for dealing with interactional problems, especially the unpredictable aspects of interaction. As a result, the interactional work of repairing the interaction falls onto the other participants in the conversation.

An additional issue seems to be that she finds it difficult to engage in topics that are not connected with her own purpose for calling. Although she is successful in asking her question about the egg and receiving a response, she does not engage

her friend more generally by talking about what happened in the classroom and at the blackboard. Suzy does not seem to be able to continue the conversation or to initiate a new topic. In other words, the data show that she is minimally interested in anything unrelated to her reason for calling. Such single-mindedness is characteristic of AS children (Attwood, 1998; *DSM-IV*).

The analysis therefore highlights some of the difficulties for this particular AS child, as well as demonstrating that the successfulness of the interaction depends, in part, on the other interactant. It is the contrast between Suzy's fairly successful interaction with the adult, M, and her less successful interaction with her friend, Tiffany, that clearly illustrates how such an interaction can live or die depending upon the conversational skills and willingness of the other interactant. It relies on such participants allowing for a longer-than-usual wait time, prompting when there is no response, and taking responsibility for topic initiation and development while maintaining coherence and predictability.

The analysis is also useful in highlighting the nature of interactional difficulties faced by AS children in general. It points to the usefulness of fine-grained analyses such as CA as a way of teasing out the precise issues facing those with AS or other communication difficulties. Much AS research refers in rather vague terms to communication and pragmatic difficulties, but this more detailed analysis is useful in pinpointing the nature of these difficulties and providing parents and practitioners with specific information as to possible ways of remedying such problems.

NOTES

¹ In preparing this article, I am grateful for the detailed and helpful comments of anonymous reviewers.

² Pseudonyms are used throughout.

³ CA transcription conventions are in Appendix A. The full transcript of the telephone conversation is in Appendix B.

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APPENDIX A: TRANSCRIPTION CONVENTIONS

.	a stopping fall in tone, not necessarily the end of a sentence
,	continuing intonation, not necessarily between clauses of sentences
?	rising inflection, not necessarily a question
¿	rising intonation weaker than that indicated by a question mark
-	cut-off
=	connecting talk
> <	talk that is faster than surrounding talk
° °	a passage of talk that is quieter than surrounding talk
↓↑	marked falling and rising shifts in pitch
::	an extension of a sound or syllable
()	transcription doubt
(())	analyst's comments
(1.0)	time intervals
(.)	a short untimed pause
hh	audible aspirations
.hh	audible inhalations
word	emphasis
[]	overlapping utterances
[]	
→	a marker to indicate something of importance

APPENDIX B: TRANSCRIPT OF TELEPHONE CONVERSATION

1. M: hell:o::
2. S: hello. (.) it's Suzy.
3. M: hello Suzy,=did you just call a minute ago an'
4. then hang up?
5. (1.6)
6. S: y:es:, hh
7. M: wh:y did you do that.
8. (4.0)
9. M: ↑yoo hoo::,↓
10. S: he he .hh
11. M: are ya there?
12. S: ye::s, hhh
13. M: what happened.
14. S: heh heh
15. M: got the giggles.
16. S: heh heh heh
17. M: or the cries.
18. (1.0)
19. M: are you crying or giggling.
20. S: heh heh heh .hh [heh heh heh heh]=
21. M: [I hope ya laughing.]
22. S: =heh heh heh .hh
23. M: what can I do for you Suzy?
24. S: uhm (2.4) .hh can I talk to Tiffany?
25. M: yes.=are you better no:w?
26. (1.0)
27. S: .hh hh a little bi:t.
28. M: a little bit. oka:y. I'll just get Tiffany. hold o:n.
29. S: °ra::gh° ((frustration?))
30. (4.8)
31. M: °Tiffany::°
32. T: °wha::t.°
33. M: °Tiffany, (1.2) Suzy is on the phone,°
34. S: .hh .hh ((sniff))
35. (4.6)
36. S: a::gh
37. (2.0)
38. S: °she's just getting Tiffany.:°(1.6)
39. °Margaret.° hh ((talking to person in the room))
40. (1.6)
41. S: uhm she asked .hh why hh .hh hh I-I rang up and then put
42. the phone do::wn; heh heh ugh, 'n I couldn't explain it
43. prop'ly. hh .hh ((talking to person in the room))
44. (5.4)
45. T: hello:,
46. S: hello::.

47. (1.0)
48. T: .hh uhm ye:s, who is it;
49. [oh yeah. it's Suzy. isn't it.]
50. S: [heh heh heh heh] .hh ye:s,
51. T: yes.=just a minute Suzy, .hh I'll be on in
52. uh (.) two seconds.
53. S: heheheh ugh .hhh she goes.
54. just a min[ute] ((talking to person in the room))
55. T: [jus]t ch:a:ngin' a bit.
56. (1.2)
57. T: uhm hell:o::
58. S: u:gh hello. hh .hh
59. T: my name is Miss Jane. .hh I am- [the]=
60. S: [heh heh]
61. T: =.hh hh .hh teacher o'- I'm the teacher .hh of Miss
62. Jane's boarding school, at dri:veway ro-, dri:veway
63. street, four.=number four driveway street. if you want
64. t' send your children here, you may.
65. (2.8)
66. T: Su:zy::?
67. S: yes,
68. T: ya still there?
69. S: ye:s,
70. T: good.
71. (1.2)
72. S: I wanted t'a::sk, hh (1.2)
73. T: Suzy guess what you missed.
74. S: wha'
75. T: a big easter egg 'cos you brought all your homework in.
76. an' a li'le one too.
77. (1.0)
78. T: but [never mind.] you'll get i- them on the first=
79. S: [()]
80. T: =day back. (0.8) heh heh
81. S: hh .hh ((sniffing))
82. T: yeah.=what did you want me [to a::?-what] do you=
83. S: [uhm hh]
84. T: =want t' ask?
85. S: did you bring back my boiled e:gg?
86. T: boiled e::gg. ahh
87. S: the coloured ones.
88. T: what colour was it.
89. (1.0)
90. S: .hh orange.
91. T: .hh Suzy I hate to say this, but agh the ones who- the
92. one that didn't get collected. 'cos they were boi:led. uhm
93. the ones that didn't get collected were got thrown out,
94. an' mine and yours got thrown out,

95. S: oh- o[kay]
96. T: [I] was he::re today. I was at school today. but I
97. was at the (.) blackboard, cleaning, with Lara, an' I didn't
98. hear her .hh so mine got thrown out.
99. (1.0)
100. T: >so did yours. sorry.<
101. (1.0)
102. S: [ihat's] okay.
103. T: [but]
104. (0.3)
105. T: .hh Suzy we a:lso got re:cipes of how to do: a:, (0.8)
106. how to do: it. so you missed the recipes too. but I didn't
107. get a uhm (0.8) .hh recipe. >so don't worry.<= °uhm,°
108. (4.0)
109. T: hh
110. T: (4.0) ((whispering))
111. cho chok ko nol li ga jal,
112. T: (5.0) ((whispering))
113. are you still there_i
114. S: ye:s,
115. T: are you listening,
116. S: kind of,
117. T: dum de dum um not available for your month please
118. arrange a swap and notify the con::veyers there's of
119. the previous month=dju wan' me t' go no:w_i
120. (0.4)
121. T: can we go:_i 'co
122. S: yeah.
123. T: the students aren' very well beha::ved. (0.8) heheh so
124. (0.2) bye, I'll see you:: .hh in 300 days time. right?
125. (1.8)
126. T: you [still there_i]
127. S: [no. hh]
128. T: alright by::e.
129. S: by:e.
130. T: bye. hang up.
131. (0.6)
132. S: I'll see you at Annie's party.
133. (1.0)
134. T: maybe:, (2.6) oh yea::h. Annie's party. .hh quick. hang
135. u:p.
136. (1.0)
137. S: why.
138. T: .hh °>because I've got t' get the invitation for Annie's
139. party. I forgot to get it.<°
140. S: hh okay. by::e.
141. T: bye.

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