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**Interaction-focused intervention for acquired language disorders:
Facilitating mutual adaptation in couples where one partner has aphasia**

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Running head: Facilitating collaborative production of topic initiations

Key words: conversation analysis, aphasia, intervention, therapy, topic

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ABSTRACT

This paper discusses the implementation and evaluation of an interaction-focused intervention single case study for a couple where one partner has aphasia. Drawing on conversation analytic research, naturally occurring conversations of the couple at home pre- and post-intervention were collected and analysed. Analysis of the pre-intervention conversational data highlighted that none of the speaker with aphasia's topic initiating turns were successful on the first attempt in terms of being taken up by the non-aphasic partner in a manner which would permit that topic to become established in the conversation. Drawing on conversation analytic work on topic initiations in normal conversation, intervention focused on training the couple to co-produce these topic initiating turns of the speaker with aphasia in a collaborative and step-by-step manner. Post-intervention, there was evidence that the couple were now using this new method, albeit in a slightly different way to that worked on in the intervention sessions. Drawing on work into adaptation by speakers with aphasia and their conversation partners, these results are discussed in terms of a process of mutual adaptation by the couple.

INTRODUCTION

The application of Conversation Analysis (CA) within aphasiology over the last fifteen years or so has not only produced a body of findings about how aphasia impacts on everyday conversational functioning (*Aphasiology*, 1999, Goodwin, 2003), but has also generated a distinct approach to aphasia therapy in which everyday conversation constitutes both a pre- and post-assessment measure and the target of therapy. Improvement in aphasic conversation (i.e. conversation where at least one of the participants has aphasia) can be seen to be a centrally important aim for any form of aphasia therapy targeting spoken language or functional communication since talking with others in conversation is the most common form of language use and interpersonal communication in everyday life.

A CA-based intervention approach can be termed ‘interaction-focused’ (Wilkinson, 2010) in that its concentration on aspects of naturally occurring conversational interaction such as turns, sequences, repair and topic (Hutchby & Wooffitt, 2008) makes it distinct from, but complementary to, other therapy approaches within aphasiology including those which are impairment-focused (e.g. Nickels, 2002), communication-focused (e.g. Hopper, Holland & Rewega, 2002) and psychosocial-focused (e.g. Kagan, Black, Duchan, Simmons-Mackie & Square, 2001).

Many of the interaction-focused intervention studies carried out so far have had a non-aphasic partner of the person with aphasia (such as a spouse or relative) as the main focus of the therapy (e.g. Lesser & Algar, 1995). In particular, many of these studies have aimed to stop or reduce the occurrence of certain pedagogic behaviours by the non-aphasic partner which highlight the linguistic incompetence of the person with aphasia, such as test questions, the initiation and/or maintenance of ‘correct production sequences’ (Lock, Wilkinson & Bryan, 2001), and cueing (Wilkinson, Bryan, Lock, Bayley, Maxim, Bruce, Edmundson & Moir, 1998; Booth & Perkins, 1999; Burch, Wilkinson & Lock, 2002; Turner & Whitworth, 2006).

The highly collaborative nature of conversation means that even when interaction-focused intervention is targeted primarily or exclusively at the non-aphasic partner, the person with aphasia’s conversational behaviours, including aspects of language structure, may change in systematic ways. This is seen, for example, in two studies which primarily targeted conversational behaviours of the non-aphasic partner which were seen to be counter-productive or non-facilitative for the speaker with aphasia. In a study by Simmons-Mackie, Kearns & Potechin (2005), for example, the successful reduction in the occurrence of the spouse’s convergent questions (e.g. questions which required only a yes/no answer) and interruptions also resulted in changes to the aphasic speaker’s linguistic production, even though he had not been involved in the therapy programme. These changes included an increase in the average length of aphasic speaker’s verbal utterances in conversation from one word to three words. In a study by Wilkinson, Bryan, Lock & Sage (2010) changes to the manner in which the spouse of a man with aphasia initiated sequences (e.g. through yes/no questions) and responded to her husband resulted in changes in the man with aphasia’s linguistic and interactional behaviour. These

changes included the aphasic speaker increasing the number of turns in conversation in which he produced, or attempted to produce, one or more sentences, and also taking a more active role in developing topic. In this case, the aphasic speaker was actively involved in the therapy programme, although it was the conversational behaviours of his non-aphasic spouse which were the main targets of the intervention.

In this paper, we describe the implementation and evaluation of an interaction-focused intervention single case study which differs from those described above in that here the conversational behaviours of both members of the couple were equally targeted by the intervention. The aim of the intervention was that the aphasic speaker might be more successful in producing topic initiating turns and establishing these new topics within the conversation. The method of achieving this aim involved training both partners to change their current interactional behaviour in relation to these topic initiating turns of the aphasic speaker such that these turns might be produced in a more collaborative and step-by-step fashion.

In the remainder of this Introduction we will summarise the conversation analytic research into topic initiation in normal (non-aphasic) conversation which is particularly relevant for the implementation and evaluation of the intervention described here. This will be followed by a description of the participants, the assessment methods used in the study and the implementation and evaluation of the intervention. In the concluding section of the paper we will discuss the outcomes of the intervention by drawing on research into adaptation by people with aphasia and their co-participants within conversation (e.g. Heeschen & Schegloff, 1999; Auer & Rönfeldt, 2004; Wilkinson, Beeke & Maxim, 2003), and we will examine the intervention process in this case as one of facilitating mutual adaptation by both members of the couple.

Topic initiation in conversation

How topics within conversation are initiated has long been a subject of conversation analytic research (Sacks, 1992). It has been found, for instance, that while often one topic will merge almost imperceptibly into the other in what has been termed a 'stepwise' fashion (Jefferson, 1984; Drew & Holt, 1998), regularly it will be the case that a speaker in conversation will want to introduce a new topic in way which is disjunctive to what has gone before. It is this latter type of topic initiation which will be discussed here, as it was this type which the person with aphasia in this study was observed to have difficulty with and which therefore became a target in the intervention programme.

A key feature of topic initiations is that they involve more than one speaker in order to be successful and to get the new topic established within the conversation. In this sense, topic initiation is a collaborative and mutual achievement. Initiating a new topic puts the conversation onto a new trajectory (Button & Casey, 1984), but typically this new trajectory can only be realised when another participant goes along with the proposed change of topic and allows it to be established within the conversation. For example, some types of disjunctive moves to establish a new topic involve the speaker eliciting news from a recipient through general utterances such as 'what's new?' or more recipient-specific utterances such as 'how are you feeling?' or 'how's your sister and her husband?' (Button & Casey, 1984). By responding to these enquiries with reportings of

newsworthy events, recipients can act to forward and establish a new topic. Another method is for the speaker to produce an announcement of some news (e.g. 'oh I got hurt a little bit last night': Button & Casey, 1984). Again, to establish this as a topic, it is necessary for a recipient to accept this as news and respond in some way (such as 'oh really?') which forwards the sequence, perhaps through allowing the first speaker to talk again and provide more details of the news which has been announced.

A second key feature of topic initiations is that the initial turns which mark these sequences as disjunctive from what has gone immediately before should be recognizable as such i.e. they should be able to be heard and understood as moves towards changing the topic. Important in this regard are delays (which temporally separate the utterance out from the prior and in this sense provide discontinuity) and also 'prefatory discontinuity markers' i.e. components such as 'anyway', 'alright' or 'well' which mark the turn they preface as not being topically tied to the prior talk (Drew & Holt, 1998). Also, such turns may follow utterances which mark the ongoing topic as being potentially closed down. Methods which can be used to mark the possible termination of an ongoing topic are the use of figurative expressions such as 'I think it will iron itself out' which summarizes what has been said, or repeats of something in the prior talk (Drew & Holt, 1998). Using this range of recognizable methods, therefore, participants may collaboratively and smoothly shift step-by-step from an existing topic to the signaling and establishment of a new one.

METHOD

Participants

The couple in this study were Connie, a woman with aphasia, and Sam, her husband¹. At the point of entering the project and taking part in the pre-intervention conversation and assessments described below, Connie was 36 years old and 14 months post-onset. She had had a left cerebro-vascular accident while driving and as a result had had a road traffic accident. She presented with a non-fluent, Broca-type aphasia and a mild dysarthria and dyspraxia. She was agrammatic and her talk contained word finding difficulties and phonemic and semantic paraphasias. She was fully mobile but had a dense left hemiplegia. Connie had received speech and language therapy three times a week during the six months that she was in hospital. Following this, she attended out-patient speech and language therapy once a week for three months. Pre-onset, Connie had been a catering manager. Sam was Connie's husband. He was 40 when entering the project and worked as a manager.

The overall framework of the interaction-focused intervention for this couple can be found in SPPARC (Lock et al., 2001). There, most of the discussion focuses on the other main area of intervention for this couple: the targeting of the couple's correct production sequence behaviours, which were typically initiated and maintained by Sam. Here for the first time the other main part of the intervention programme for the couple – the targeting of Connie's topic initiation behaviours - will be described in detail, and the

implementation and outcome described in relation to what is known about 1) topic initiation in normal conversation, and 2) adaptation in aphasic conversation.

Conversation data collection and analysis

The couple were trained in the use of a video-recorder which was then left with them to record their conversations at home in the absence of the speech-language pathologist (SLP). The couple were requested to try to record the types of conversations they would normally have. This conversation (referred to here as the 'pre-intervention conversation') totaled 43 minutes of talk, recorded on two different occasions. Much of the recording consisted of the couple carrying out word drills as an activity. Nine minutes of the tape which consisted of conversation between the couple was transcribed using the CA transcription system (see the Appendix for the main symbols used in CA transcripts). Analysis drew on CA methods and findings from normal (non-aphasic) conversation to examine features of the couple's talk such as repair, turns, sequences and topic (see Lock et al., 2001).

The couple were requested to also tape a second pre-intervention conversation but did not produce a recording. In the absence of this, a recording was carried out between the couple and the research SLP who was visiting the couple. This interaction is strongly institutional (Drew & Heritage, 1992) with the SLP asking questions and initiating topics. As such, this interaction differs from the typical two-party conversations between Connie and Sam and was not used further in the analysis, although it does provide some useful information about aspects of the linguistic methods used by Connie to construct her turns in the pre-intervention phase. This point will be returned to below.

Post-intervention, the couple were provided with a video-recorder in the same way as before and recorded just under 21 minutes of conversation. Again, nine minutes of this conversation (referred to here as the 'post-intervention conversation') was transcribed and analysed. The section chosen was the first new topic following the first ten minutes of the conversation, thus avoiding the initial segment of the conversation when the participants might be more self-conscious about the video (Beeke, Wilkinson & Maxim, 2003).

Results of other clinical assessments

Comprehensive Aphasia Test (CAT): Cognition and Language Subtests

At the same time as the pre-intervention conversation and post-intervention conversation Connie was assessed on the 'Comprehensive Aphasia Test' (CAT) (Swinburn, Porter & Howard, 2004; used here in a pre-publication version). The results of Connie's performance on the language and cognition subtests at the pre- and post-intervention intervention stages are provided in table 1.

TABLE 1 ABOUT HERE

No significant changes would be expected on these subtests since, at 14 months post-onset at the first assessment point, Connie was beyond the period of spontaneous recovery (Swinburn et al., 2004) and intervention during this period was focused on the couple's conversational behaviours rather than Connie's underlying cognitive or linguistic impairments. However, two of the language subtests (noun naming and reading aloud real words) did show significant improvement (McNemar, one-tailed, $p < 0.05$) at the second test time. The reasons for these changes must at this stage remain speculative, however, and will not be commented on further here.

Comprehensive Aphasia Test (CAT): Disability Questionnaire

The Disability Questionnaire from the CAT was used as the basis for ascertaining from Connie her perceptions about her disability at the pre- and post-intervention stages. This section of the CAT uses a Lickert-type scale where the maximum score of 4 suggests that something is more problematic to the rater than prior to the onset of aphasia and where the minimum score of 0 indicates that the topic is as easy or the same as it was prior to the onset of aphasia. There are three sections to the measure: (1) the person's perception of their impairment (which includes their views on comprehension, talking, reading and writing), (2) the person's perception of how much the aphasia intrudes into their life and (3) the person's self image. The final section asks the person with aphasia to rate the emotional consequences of the aphasia (how frustrated, sad angry etc they may be as a result of their communication difficulty). The raw scores have been converted to a percentage to allow comparison across sections and are shown in figure 1.

FIGURE 1 ABOUT HERE

Figure 1 points towards a number of changes in Connie's perception of her aphasia following the intervention. It suggests that her perception of the impact of her disability on her life has decreased across all areas measured but is particularly striking in the areas of self esteem and her emotional response to the aphasia. Prior to the intervention Connie had rated her loss of confidence, self esteem and isolation as a major worry whereas after the intervention, she rated them as no longer a worry to her at all. This also held for her feelings of frustration, sadness, anger, feeling 'daft' and dissatisfaction.

ANALYSIS AND RESULTS

Connie's topic initiations in the pre-intervention conversation

In the pre-intervention conversation sample, Connie produced three topic initiations which were disjunctive to what had gone before. Analysis revealed that in each case, a feature of the attempt was that Connie had some difficulty in getting the topic initiation established. For example, one aspect of the pattern at this stage was that Sam displayed difficulty in understanding Connie's topic-initiating turns, leading to delays in getting the

topic established, as will be seen in Extracts 1 and 2. In another example (Extract 3) Connie's attempt at changing topic was overlapped by Sam, at which point she temporarily abandoned the attempt and returned to it later.

As Extract 1 starts (lines 01 and 02), Connie and Sam's are continuing an ongoing topic concerning a possible trip to the USA in the following year. In line 03, Connie produces the word /f:ɪbɪrɪ/. With the hindsight of knowing how the extract evolves, it is possible to see that this is Connie's attempt (strongly affected by her phonemic impairments and motor speech difficulties) at producing the word 'family', and that this word constitutes a (very compacted) request i.e. that the couple should shift from their current topic of the USA trip to the activity of practising names together, in this case the names of Connie's family members. This request is related to the fact that prior to this episode of talk about the possible USA trip the couple were doing this kind of speech and language therapy homework together. Connie here is requesting that the couple return to this type of activity. In producing this topic initiating turn in line 03 Connie does not, however, verbally signal to Sam that this should be heard *as* a topic initiating turn i.e. she does not, for example, use a prefatory discontinuity marker such as 'anyway'. Also, in his talk about the possible trip to America in lines 01 and 02, Sam has not produced any signs that he is closing down this topic, such as through the use of a figurative pivot or a repeat of prior talk. As such, the result is that Connie's topic initiating turn here can be seen to be rather abrupt and 'out of the blue'; it has not been arrived at and produced through the kind of step-by-step and collaborative process typically engaged in by participants in this kind of topic shift (Drew & Holt, 1998).

EXTRACT 1 ABOUT HERE

From Sam's responses to Connie's turn in line 03, it can be seen that a significant part of his difficulty in understanding it is related to the fact that he does not understand the action it is doing i.e. he does not understand that it is a topic initiating turn in the form of a request. Instead he can be seen to be trying to understand it as a contribution to the prior topic of the USA trip. This type of understandability problem, whereby a recipient can be seen to misinterpret an aphasic utterance in part because of misguided attempt to understand it as a contribution to the prior/ongoing topic, has been noted in the case of another aphasic speaker (Wilkinson, 1999). In that case too the speaker had agrammatism and sound production problems leading to relatively poor intelligibility and was attempting to produce an action which the recipient might not have been expecting (in that case, a correction). As such, it can be seen that for speakers with aphasia like Connie, attempting to produce an action which will move the conversation on to a new and perhaps unexpected trajectory, such as a topic initiation, can be a difficult and sometimes frustrating task.

In this case, in first trying to understand the actual word that Connie is saying here (which has poor intelligibility due to Connie's phonemic and phonetic impairments), Sam interprets it in line 04 as 'February' i.e. as a date which is in some way relevant for their USA trip (such as when they might go). Even when he has worked out that the word Connie produced in line 03 was 'family' (i.e. by lines 06 and 07), he still misinterprets what she means by this though trying to make sense of her use of 'family' in relation to the prior topic of the USA holiday. These misinterpretations can be seen in lines 12-14

and in lines 19-23, and can be seen to produce displays of annoyance from Connie (lines 14 and 23), presumably caused by being not being understood despite various tries.

It is only from line 25 onwards, when Connie starts to produce the names of family members and Sam gives her feedback, that Connie can be seen to have successfully established the new topic/activity by getting Sam to understand this new trajectory in the conversation and to collaborate with it. Achieving this, however, has involved a significant amount of effort and repair work by both participants. It has also highlighted the potentially delicate issue of how difficult Connie can be for Sam to understand and (perhaps linked to this) engendered displays of annoyance by Connie at several points (see lines 05, 14, 17 and 23) and, in response, apologies by Sam (lines 18 and 24).

Extract 2 displays several similarities to Extract 1. In lines 01 to 04 Sam is producing the final section of what has been quite an extended outlining of how he has had a difficult and tiring day. Connie then produces an utterance in line 05 ('read my books') which can be seen in hindsight to be a topic-initiating turn in the form of a request. This is therefore a similar type of utterance to that seen in Extract 1, including the fact that, as in that example, the request is that the couple should shift at this point from the conversation back to the activity they were doing previously i.e. practicing saying words (in this case the words in Connie's speech and language therapy homework book). As with Extract 1 it is notable that Connie does not produce her topic-initiating utterance in a manner which marks it as obviously disjunctive from what has just preceded it; apart from a brief 'ehm', she moves straight into her topic initiation with 'read my books' (line 05). Again too, Sam has not signaled in any way that he is marking the ongoing topic (of his difficult day) as necessarily moving to an ending. For example, he does not produce a figurative pivot, which here might take a form such as 'but anyway that's the way it goes', or a repeat of prior talk. As with Extract 1, therefore, Connie's topic initiation here appears abrupt and unexpected.

EXTRACT 2 ABOUT HERE

Sam's response to Connie's utterance displays that he is having difficulty understanding it (lines 06-09). While this may be caused, at least in part, by the fact the intelligibility of Connie's utterance in line 05 appears quite poor due to her motor speech problems, it may also be because Sam does not immediately comprehend that the utterance is a topic initiating turn, here in the form of a request. After a long silence of 1.5 seconds he first he produces 'sorry' (line 07), a form of repair-initiation which can be used as a sign that the recipient is having difficulty understanding some overall feature of the prior utterance, such as its topical relation to the prior turn (Drew, 1997). In response, Connie's redoes her problematic utterance (line 08) but this is not in itself sufficient for Sam to understand her. This time his other-initiation of repair is in the form of a repeat (line 09), which displays that he now appears to have a reasonable grasp of the words Connie has said, but is still having some difficulty in understanding how she is using them e.g. what their sequential or topical fit is in relation to the prior talk. After Connie confirms Sam's hearing of her turn (line 10), Sam then moves towards acceding to Connie's request by asking where her homework book is. At this point, after two rounds of repair sequences

(lines 06-08 and 09-10) the new topic/activity initiated by Connie becomes established in the interaction.

Extract 3 displays a different way in which Connie had difficulty in getting a new topic established in the conversation. As this extract starts the couple are practicing words written on flash cards. In line 04 Sam starts to put the cards away. At this point, at the potential end of an activity, either speaker could speak next. Here Connie speaks first and attempts to engage Sam in conversation; she attempts to launch a new topic by starting to ask him what he did at work that day (line 06). The attempt at topic initiation is unsuccessful here; as she is talking, Sam overlaps her by asking her about one remaining flash card (line 07). Connie ceases production of her topic-initiating turn and returns to the prior activity of saying the word written on the card (i.e. 'sap' in line 08). When Sam accepts her attempt as good enough, Connie tries again to produce her topic initiating turn (line 10). This time she is more successful; the question about what Sam did at work is produced in full, Sam responds, and the new topic is established in the conversation.

EXTRACT 3 ABOUT HERE

Summary and discussion of Connie's attempts at topic initiation in the pre-intervention conversation and implications for intervention

It can be seen from the analysis of the three topic initiations produced by Connie in the pre-intervention conversation that none of them was successful on the first attempt in terms of being taken up by Sam in a manner which would permit that topic to become established in the conversation. In Extracts 1 and 2 this was due to the fact that Sam had difficulty understanding these turns, not only because they were affected by Connie's sound production problems, but because he appeared to not immediately recognize the utterances as being a topic initiating turn. This led to delays in the requests being understood and the change of activity (to practising words) being acted upon. As was seen in Extract 1, these delays could be long and could highlight Connie's communicative disability, in the sense that at these points in the talk it was evident that Sam could not understand what she was trying to convey, despite several tries involving both participants to solve this problem. The psychosocial consequences of this were evident in the participants' behaviour, with Connie displaying annoyance and Sam apologizing for continuing to misinterpret her. In Extract 3, Connie's first attempt at producing a topic initiating turn was overlapped by Sam and temporarily abandoned.

In analyzing why each of Connie's topic initiating turns was unsuccessful in this regard, it could be seen that a major factor was Connie's design of these turns. Specifically she was doing little to mark these turns in ways which would allow them to be recognized by Sam *as* topic initiating turns. While Connie was able to produce, or attempt to produce, a relatively well formed sentence or phrase as a topic initiating turn (i.e. 'read my books' in line 05 of Extract 2, and 'what did you do at work?' in the second attempt at a topic initiation in line 10 of Extract 3) she was not producing 'prefatory discontinuity markers' such as 'anyway' or 'well' at or near the start of these turns. As well as the lack of such markers, she often did not use any other methods, such as noticeable silences or other types of delays, which might provide some discontinuity between her topic initiating turn and the prior turn by Sam.

In summary, it was these recurrent features of the design of Connie's topic initiating turns, such as the lack of prefatory discontinuity markers and other types of discontinuities or delays, which appeared to contribute significantly to her problems in getting her topics established in the pre-intervention conversation. The failure by Connie early on in her utterance to use some means to alert Sam to the topic-initiating nature of these turns (Extracts 1 and 2) or perhaps to gain his attention for the upcoming turn (Extract 3) meant that these turns were at risk of not being understood in the first instance (Extracts 1 and 2) or being talked over and lost (Extract 3).

It was therefore decided to focus on this feature of the couple's conversation as part of the intervention programme. Connie's problems with topic initiations were regarded as a suitable target for intervention because:

- 1) this was a recurrent problem for the couple in this conversation, with each of Connie's three attempts being unsuccessful in the first instance.
- 2) these topic initiation attempts could engender problems for Sam in understanding them and hence delays in the ongoing conversation while the resulting other-initiated repair sequences were resolved.
- 3) these repairs could be seen to highlight Connie's linguistic disability, as displayed here through Sam's repeated failures to understand her, despite several attempts. Linked to this was the fact that Connie's difficulties in being understood could be seen to lead to displays of annoyance by her. Such displays of negative emotion in relation to a particular feature of conversation are one of the factors cited by Lock et al. (2001) as warranting intervention for that conversational feature.

Intervention

Connie and Sam received four sessions of intervention, with the SLP working with them together as a couple in their home. Each session lasted between one and two hours, with one of these sessions focused specifically on Connie's topic initiations. The intervention used for targeting topic initiations followed the process of interaction therapy outlined in SPPARC i.e. videos and handouts were used to raise the couple's awareness of topic and topic initiations in general before using videos of their own conversation to raise awareness of, and facilitate discussion about, their own patterns of behaviour in relation to topic (Lock et al., 2001).

By these means it was highlighted to the couple, and discussed with them, that Connie's ability to initiate topics was a positive feature of her talk but that these topics regularly led to repair and on one occasion engendered displays of annoyance. It was drawn to the couple's attention that a reason for this was that Connie's current method of producing topic initiations meant they might appear 'out of the blue' to Sam and as such he might not immediately recognize them as topic initiating turns or might not register them in other ways.

As a result of these discussions, strategies for change were identified which the couple tried out with the SLP in the session and agreed to try at home and monitor the success of. Central to the suggested changes was the fact that in normal conversation this type of disjunctive topic initiation is typically not a quick activity carried out by one speaker alone. Rather, it is a collaborative process whereby often one speaker will signal that the current topic may be ending (through the use, for example of a figurative expression or repetition) and, in response, another speaker may signal that they are launching a new topic (through the use of, for example, some signs of discontinuity such as delays and the use of lexical items such as 'well' or 'anyway') (Drew & Holt, 1998).

In drawing on these insights from normal conversation in designing an intervention programme for Connie and Sam, the aim was not that Connie should attempt to produce topic initiations in this 'normal' manner that she would have used prior to the onset of aphasia, since this would have been likely to be very difficult for her. Rather, the aim was to draw on general features of topic initiation and topic change, such as its typically collaborative and step-by-step nature and to facilitate Connie and Sam in incorporating these features in ways which would allow Connie's topic initiations to be produced more successfully i.e. without the regular occurrence of the types of difficulties seen in her pre-intervention conversation topic initiation attempts.

Specifically, it was agreed between the SLP and the couple that Connie would alert Sam to the fact that the turn she was starting to produce should be heard as a topic initiating turn. This would be done by using 'alerters', in particular a word or phrase such as 'by the way' or 'anyway'. For his part, Sam agreed that if he thought Connie might be attempting to change topic, he would provide her with the time and opportunity to do this. This could include, for example, Sam using continuers such as 'mm hm' (Gardner, 2001) to allow Connie to produce more talk. As such, an overall principle of the intervention was that the type of topic initiations that Connie was currently attempting to produce in a particularly unilateral fashion would now be produced more in a more collaborative manner by the couple.

Connie's topic initiations in the post-intervention conversation

In the post-intervention conversation, there was evidence that Connie's topic initiating turns were now being produced in a different and more successful manner which was in line with the collaborative and step-by-step process suggested in the intervention sessions. Connie was now regularly alerting Sam that she was initiating a topic. She did not, however, use a word or phrase such as 'by the way' or 'anyway' to do this, as had been suggested in the intervention sessions. Rather, she was using a particular turn-constructural format (Schegloff 1996; Heeschen & Schegloff, 1999) which involved one or more temporal phrases, such as 'tomorrow morning'. Specifically a temporal phrase was used as the first linguistic component of the turn. It was produced with rising or continuing intonation - signaling that there was more of the utterance to come - and was followed by a pause. The pause could be heard as a place where Sam might produce some form of continuer to acknowledge his unproblematic hearing of the utterance so far and to allow it to continue (see also Wilkinson et al. (2003) for a similar phenomenon in

the talk of speakers with fluent aphasia). In response, Sam regularly did produce continuers in this particular sequential slot..

There were five examples of this collaborative and step-by-step topic initiation method in the nine-minute post-intervention segment. For reasons of space three of them will be presented and discussed here in order to show the general pattern. The other two can be found in Connie and Sam's post-intervention transcript in SPPARC (Lock et al., 2001; the two relevant extracts begin at lines 01 and 102).

As Extract 4 starts, Sam is continuing an ongoing topic about the shower in the house leaking and how it will get fixed. In lines 01 and 02 he starts attending to the couple's cat and directs his talk about the leaking shower to the cat. In line 08 Connie produces a topic initiating turn, changing the topic to that of making arrangements about meeting people at the airport in the following week. First she produces the temporal phrase 'next Thursday'. This is said with continuing intonation, marking there is more to come. As such, Sam is alerted to the relevance of a possible new topic being produced here. He responds with a continuer ('mm hm' in line 09). Connie then produces another temporal phrase 'ten o' clock' followed by a clarifying 'a.m.' (line 10). Both are produced with continuing intonation and again Sam responds with 'mm hm', allowing her to continue (line 12). Connie then completes the utterance with 'meet cousins' produced with a falling, or final, intonation. The intelligibility of the word 'cousins' is quite poor due to Connie's sound production problems, and in response Sam produces an other-initiation of repair (Schegloff, 2000) in line 14 ('meet?'). It is notable, however, that this repair is not related to the turn as a whole and nor is there any indication that Sam is unaware that Connie's emerging utterance is a topic initiation.

EXTRACT 4 ABOUT HERE

Extract 5 provides a further example of this collaborative method of producing a topic initiating turn. As the extract starts (lines 01 to 03), Sam is continuing an ongoing topic about whether or not the couple should go on a trip to Australia. Following a silence, Connie initiates a new topic concerning her therapy session at the local hospital the following day. As in Extract 4, her first verbal component is a temporal phrase, done with rising intonation ('tomorrow?' in line 05). Sam immediately produces 'mm hm', facilitating her to continue with her turn (line 06). This she does by completing her phrase with 'morning' then providing more information with a further temporal phrase 'eleven o' clock' (line 07). Sam again responds with a continuer, and Connie now attempts to produce the name of the hospital (lines 09 and 11). Sam again responds to both of Connie's attempts with continuers ('mm hm' in line 10, and a head nod in line 12). Connie then mentions the name of the therapist, Jack (line 13) before the couple go on to talk about him and the fact he is working on Connie's hand.

EXTRACT 5 ABOUT HERE

In lines 01 and 02 of Extract 6, Sam is continuing to talk about an ongoing topic of Connie going away for a holiday with her cousins. In line 03 Connie initiates a new topic, announcing that her friend had phoned that morning from Australia before going on to tell Sam that the friend had asked Connie and Sam to be godparents. As in Extracts 4 and 5, the first linguistic element of the topic initiating is a temporal phrase i.e. 'this morning'

in line 04, again produced with continuing intonation marking more to come (Connie's production of 'last... no' in line 03 may be an incorrect and abandoned attempt at launching this turn or may have been concerned with some other matter which is not pursued). In line 05, Sam provides a continuer in the form of a head nod, and Connie proceeds to produce the rest of the initial news announcement in line 06.

EXTRACT 6 ABOUT HERE

Summary and discussion of Connie's attempts at topic initiations in the post-intervention conversation

The method by which Connie's topic initiating turns were produced in the post-intervention conversation, while idiosyncratic and different from methods of topic initiation used by normal, non-aphasic, speakers, could be seen to be successful for this couple. In each of the five examples in this conversation, Connie's production of the initial temporal phrase with continuing or rising intonation worked to achieve Sam's engagement in co-producing her turn in a collaborative and step-by-step manner. This is different from the unilateral way in which Connie was introducing topic initiating turns in the pre-intervention conversation which meant that they regularly appeared abrupt and out of the blue and hence could create problems for Sam in recognizing their conversational function or action (e.g. as topic initiation turns in the form of a request, as in Extracts 1 and 2). In the post-intervention conversation, Sam's engagement and awareness from early on in the turn that this might be a topic initiating turn meant that in none of these five examples did Connie's attempt to change topic encounter the types of problems experienced in relation to all three of her attempts to initiate topic in the pre-intervention conversation. Instead, in this conversation these topic initiating turns were understood as such by Sam and were not overlapped and abandoned. Also these turns did not highlight Connie's linguistic disability in the conversation through the (sometimes prolonged) displays of understanding problems and misinterpretations by Sam which were evident in Extracts 1 and 2 and which (as was the case in Extract 1) could result in displays of annoyance by Connie. In other words, in the post-intervention conversation Connie's talk at these points was successful in achieving the particular functions and conversational actions which it aimed to convey without that talk becoming a noticeable conversational phenomenon in its own right through the source of other-initiations of repair by Sam and displays of annoyance by Connie.

It is also noticeable that prior to the first lexical item in her topic initiating turns in Extracts 4, 5 and 6, Connie was producing a number of search tokens (such as 'uhm'), lip smacks and silences (e.g. Extract 4, line 08; Extract 5, line 05; Extract 6, line 03 and 04). While these 'pre-beginning' (Schegloff, 1996) elements of the turn might be argued simply to be the external signs of the psychological utterance planning process, they do produce the interactional result that in each of these cases there is a delay between the first lexical items (i.e. the temporal phrase) of Connie's turns and the end of Sam's prior turn. These pre-beginning elements provide the turns with a greater element of disjunction from the prior talk and as such may assist in Sam's hearing of the unfolding turns as topic initiations which are disjunctive to what has gone before. In contrast, it was

the minimal delays at the start of some of Connie's topic initiating turns in the pre-intervention conversation that contributed to the introduction of these topics being hearable as abrupt and out of the blue (i.e. Extract 2, line 05; Extract 3, line 06).

Since the temporal phrases that Connie used in these topic initiating turns post-therapy had not been discussed or worked on as part of the intervention process, it might be asked how it was that she came to use them this way. While we cannot definitively answer this question, it is notable that Connie was using temporal phrases pre-therapy, in some cases as the first (or sole) element of her turn, although not at this stage to initiate new topics. In the pre-intervention conversation with Sam, for instance, she used a temporal phrase ('four weeks more') as a contribution to an ongoing topic about the couple building a summer house:

EXTRACT 7 ABOUT HERE

Also, in the three-way conversation between Connie, Sam and the SLP in the pre-intervention phase, there was one example of Connie using a temporal phrase as the first element of a turn which was contributing the ongoing topic of the couple's dog (an alsatian) and how she behaved with the next door neighbour's cats (in line 01 of the transcript, 'she' refers to the couple's alsatian):

EXTRACT 8 ABOUT HERE

It may be the case, therefore, that in response to the intervention and its focus on topic initiations, Connie made use of an existing turn constructional resource (temporal phrases) and adapted this for use as a topic initiating device, while also adding other features such as pauses which prompted Sam to collaborate in the production of the turn.

Maintenance

Some evidence for Connie maintaining the use of temporal phrases as a resource for topic initiation comes from a conversation between Connie and another conversation partner, her friend Jane, recorded as part of a different research project (Wilkinson, Maxim & Beeke, 2001). This conversation occurred 23 months after the post-intervention conversation analysed above. An example of Connie using a temporal phrase to initiate topic can be seen in Extract 9. Here, Jane in lines 01 and 02 is finishing bringing Connie up to date on what she (Jane) has been doing in the recent past, and is hearably directing this topic towards possible closing by summing up (Drew & Holt, 1998). In line 03, Connie changes the topic, informing Jane about a wedding cake she will be making for a wedding in the summer. She produces this topic initiating turn using a temporal phrase ('July no- June' in line 03).

EXTRACT 9 ABOUT HERE

A second example from this conversation of Connie using a temporal phrase to initiate a topic in this conversation can be found in Beeke et al. (2003).

CONCLUSION

This paper has presented details of the implementation and evaluation of an interaction-focused intervention study for a couple where one person has aphasia. The intervention targeted the person with aphasia's topic initiating turns. This was due to the fact that in the pre-intervention conversation none of the three instances of topic initiation by the person with aphasia were successful in terms of being taken up by the recipient (the person with aphasia's husband) in a manner which would allow that topic to become established in the conversation. In two cases it was evident that the non-aphasic partner had difficulty in understanding these turns, and this led to other-initiations of repair and delays in the conversation. In one of these cases, the prolonged repair attempt and repeated misinterpretations by the non-aphasic partner could be seen to highlight the poor understandability of the woman with aphasia and to result in displays of annoyance from her.

Intervention consisted of the SLP working with the couple together and using video-feedback, tasks and role-plays in order to facilitate their adoption of a new method of producing these topic initiating turns within conversation. This involved the couple producing the turns in a more collaborative and step-by-step fashion which differed from the unilateral and often quite abrupt manner in which they were produced by the person with aphasia in the pre-intervention conversation.

Analysis of the post-intervention conversation displayed that the couple were indeed using this new method of producing the topic initiating turns within conversation. It was notable, however, that the linguistic practice used by the person with aphasia was not the type of word or phrase (e.g. 'by the way' or 'anyway') practised in the intervention sessions, but rather a temporal phrase such as 'tomorrow morning'. This temporal phrase was produced with continuing or rising intonation and followed by a pause, prompting the recipient to produce a continuation marker such as 'mm hm' and thus collaboratively engage in the production of the turn. This collaborative method, which was not present in the pre-intervention conversation, was used five times in the post-intervention conversation. On each occasion in this conversation the topic initiating turn produced was successful in being received and understood by the non-aphasic recipient and in establishing the person with aphasia's new topic within the conversation. The ability to successfully produce topic initiations and get the new topic established in the conversation can be seen to be an important one for speakers with aphasia since without this ability the speaker would typically be talking in relation to topics chosen by someone else and, in this sense, would be more passive in the conversation. It may be hypothesized that these improvements in topic may be linked to Connie's lessened perception of her disability as measured by the CAT disability questionnaire (Swinburn et al., 2004).

The collaborative and step-by-step method of producing topic initiating turns adopted by Connie and Sam in the post-intervention conversation can be viewed as the result of adaptation by both members of the couple. Adaptation within conversation by people with aphasia and their conversation partners has been a focus of conversation analytic research within aphasiology in recent years (e.g. Heeschen & Schegloff, 1999,

2003; Auer & Ronfeldt, 2004; Wilkinson et al., 2003). At its most general, the term adaptation here refers to the process whereby contributions to conversation produced by a speaker with aphasia and/or a conversation partner can be seen to be designed in distinct and systematic ways in light of the speaker with aphasia's impairments and their potential impact within conversation.

For example, in their research into the conversational talk of speakers with agrammatism (i.e. speakers with the same types of aphasic symptoms as Connie), Heeschen & Schegloff (1999, 2003) observed that the speakers in their data displayed some systematic variation in how they designed their turns within a conversation. While these speakers could produce, or attempt to produce, relatively complete, grammatical sentences at one point in a conversation (albeit typically with errors, omissions and delays), at another point in the same conversation they produced distinctly aphasic types of talk such as telegraphic speech (Heeschen & Schegloff, 1999). In exploring what these aphasic speakers might achieve by speaking in an adaptive style such as telegraphic speech, Heeschen and Schegloff (1999, 2003) observed that one outcome was that non-aphasic partners were regularly prompted by this type of talk into becoming actively involved in the co-production of the aphasic speaker's turn. As such, the non-aphasic conversation partners can also be seen to adapt the way the talk in these contexts. Indeed, in such cases, the couple or dyad can be seen as engaging in mutual adaptation. As Heeschen and Schegloff (2003: 268) put it in relation to one of the dyads in their data: 'adaptation seems to be more than just some practices on the part of each of the co-participants. Adaptation is a mutual phenomenon'.

In the case of Connie and Sam, their method of producing topic initiating turns in the post-intervention conversation can be seen as an example of mutual adaptation. Connie is now producing her topic initiating turns using an adaptive method i.e. using one or more temporal phrases to initiate her turns in a manner which successfully prompts Sam to collaborate in the joint production of these turns (cf. Heeschen & Schegloff, 1999). For his part, Sam is actively involved in these turns through the use of continuers such as 'mm hm' and head nods. The result is an idiosyncratic, but systematic and effective, collaborative and step-by-step method of producing Connie's topic initiating turns. It is notable that while adaptation in conversation typically appears to be involve styles of talking which speakers with aphasia and their conversation partners have evolved spontaneously (Wilkinson et al., 2003), in the case of Connie and Sam the evidence suggests that the collaborative topic initiating method adopted by the couple as a form of mutual adaptation was facilitated by the intervention programme.

As noted in the Introduction, many of the interaction-focused intervention studies carried out so far have involved targeting certain conversational behaviours produced by the non-aphasic partner, in particular pedagogic behaviours such as correct production sequences (e.g. Wilkinson et al., 1998; Booth & Perkins, 1999). These pedagogic behaviours can be seen as one way in which the non-aphasic partner has adapted their manner of talking in light of the person with aphasia's linguistic impairments. In many cases, however, these behaviours appear 'maladaptive' or non-facilitative in that they are unhelpful or distressing for the person with aphasia, and in such cases may therefore become the targets of intervention. This intervention study can also be seen to have drawn on work in interactional adaptation, but in a different way. Here the intervention

facilitated the aphasic speaker and the non-aphasic partner to produce a certain type of turns - topic initiating turns – in a different, and collaborative, manner.

Such facilitation of adaptation in aphasic speakers and/or their conversation partners would appear to be a useful goal for intervention focused on changing linguistic and interactional behaviour within aphasic conversation. In particular, it may be useful, as here, for the SLP to facilitate the couple, dyad or larger group of participants to adapt their manner of talking such that certain conversational actions or behaviours which the aphasic speaker may be attempting to produce – problematically – on their own, might be produced more successfully in a collaborative manner across more than one speaker.

As with the case of topic initiations in Connie and Sam's conversations, such work could usefully draw on conversation analytic research into how speakers actually talk and interact in real-life, real-time settings in order to analyse aphasic conversational data and plan, implement and evaluate therapy. While communication disorder research and clinical intervention has historically had to rely on idealized models of language and communication in order to generate assessment tools and therapy targets, ideas and advice to those affected by communication disorders, this is no longer the case.

POSTSCRIPT

Pam Enderby was, with Dr. Rachel David, a supervisor of my PhD on conversation analysis and aphasia, and was also instrumental in gaining funding for the PhD and supporting its development in numerous practical ways. Pam has always emphasized, both in person and through her publications, the importance of research having a practical application to the clinical management of people with communication disorders. The research presented here can be seen as displaying one of the ways in which conversation analytic work can contribute to clinical assessment and treatment, an aim I know Pam always had for this line of work. *Ray Wilkinson*

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DECLARATION OF INTEREST:

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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APPENDIX: TRANSCRIPTION CONVENTIONS

The transcription conventions used in this paper are those developed by researchers using conversation analysis (see e.g. Hutchby and Wooffitt, 2008).

[a left-hand bracket links an ongoing utterance with an overlapping utterance or non-verbal action at the point where the overlap/simultaneous non-verbal action begins

] a right-hand bracket marks where overlapping utterances/non-verbal actions stop

= an equals sign marks where there is no interval between adjacent utterances

(0.6) a number in single brackets indicates the length, in tenths of a second, of a pause in the talk

(.) a full stop in single brackets indicates an interval of one tenth of a second or less in the stream of talk

oh: a colon indicates an extension of the sound or syllable it follows. More colons prolong the stretch

>talk< talk is delivered at a greater speed than the surrounding talk

<talk> talk is delivered at slower speed than the surrounding talk

, a comma indicates continuing intonation

? a question mark indicates a rising inflection

! an exclamation mark indicates an animated tone

- a single dash indicates a halting, abrupt cut off to a word or part of a word

stress underlining indicates emphasis

() single brackets display where one or more items are in doubt and may either be empty (if the items are very unclear) or may contain the transcriber's best guess

[((*nods*))] text in double brackets represents a gloss or description of some non-verbal aspect of the talk

EXTRACTS

Extract 1ⁱⁱ

01 S stop off in California (0.8) on the way there- in (.) New York
02 on the way there.
03 → C .hhh ehm (1.4) eh /f:ɪbɪrɪ/
04 S February.
05 C no::! (0.6) /f:ɪrɪrɪ/
06 S family.=
07 C =yeah.
08 (1.2)
09 S ((*slower and more deliberate*)) family.
10 C /f:ɪbɪ:/,
11 S fa:mi:ly.
12 C fa:mi:ly.
13 S that's it. (0.3) family. your family in Am-America. (0.5) [we'll see them.]
14 C [no::!]]
15 C (0.3) ((*lip smack*))
16 S family?
17 (1.5) ((*C looks crossly at S*))
18 S sorry (.) °I'm (.) (mistaken)^o
19 C /f:ɪbɪwɪ/ ((*lip smack*)) (1.3) fa:mi:ly.=
20 S =yeah,
21 C ((*lip smack*)) Johnny?
22 S yeah. (0.7) and they're going.
23 C no::[:!] ((*looks frustrated*))
24 S [>go on<] go on sorry sorry go on.
25 C eh Johnny,
26 S yeah.
27 C Mandy.
28 S yes,
29 ((*C goes on to produce a list of family names*))

Extract 2

01 S it's just tiring day (.) it's just a tiring day. (1.5) and
02 it's ten past eleven (2.0) and I just feel tired (.) I'll have
03 a shower now (.) ((*rubs his neck*)) (scuse) I just keep yawning ((*yawns*))
04 have a shower (.) go to bed and get up again.
05 → C °ehm° <rea:d my: boo:ks:>
06 (1.5)
07 S [sorry]
08 C [()] <rea:d my: boo:ks:>
09 S read your book?
10 C (.) mm
11 S = where's your book?
12 ((*C moves to pick up the homework book and the couple commence to practise C's words*))

Extract 3

01 S seep.
02 C sleep.
03 S [yeah well (try and get) the 'l' in between (0.3) there.
04 [(S. putting the cards away))
05 (1.2)
06 → C eh what (did) y[ou
07 S [which is the one you forgot
08 C hyeah (0.4) eh sap.
09 S sap (1.0) yeah °that's (fine) that's fine°.
10 C ehm (1.0) ehm (.) eh what did you do at work.
11 ((S looks down)) (1.9)
12 S work (0.6) I was on the computer most of the day (0.9) and there was
13 some trouble

Extract 4

01 S ((talking to 'Socks', the cat, throughout)) come on ((clicking fingers to cat)) come on
02 ((lifts cat onto lap)) shower leaking (0.3) Socks (0.3) the shower's leaking.
03 (2.7)
04 C mm
05 (0.9)
06 S ((talking to cat)) lay down.
07 (5.8)
08 → C ehm (.) ((lip smack)) (2.0) eh:: (.) ((lip smack)) (1.3) next Thursday, (2.3)
09 → S [°mm hm°
10 → [eh] ten o'clock, (0.3) a m,
11 (0.4)
12 → S °mm hm°
13 (0.4)
14 → C ehm (.) meet (.) cous-ins.
15 (1.9)
16 S meet?
17 C (the) cousin(s) (.) Stanst-ead air-port.
18 S I thought it was Friday you were going.
19 C no! (0.6) Thursday.

Extract 5

01 S I'm only gonna go (.) two weeks. (2.4) a day to get there (n) a day to get back (2.8)
02 it's a long way. (0.9) s- (0.9) it's a day out- two days out your life on an aeroplane,
03 C ((shrugs)) mm so what?
04 (6.5)
05 → C ((lip smack)) ehm, (.) ((lip smack)) tomorrow?=
06 → S =mm hm,
07 → C (0.8) morning, (0.4) e:leven o'clock,
08 → S °mm hm°
09 → C /no: (.) m□ni/ (.) h- (.) hospital,
10 → S °mm hm°
11 → C /m□d□s□s/ hospital,
12 → S ((nods))
13 → C ehm: (0.5) ((lip smack)) f-ehm, ((tuts)) (1.2) heh heh heh Jack.

Extract 6

01 S (no but) I'm glad you're going (.) well (I'm glad
02 you're gonna go (0.6) with your cousins 'n (2.3) good holiday
03 C eh ((lip smack)) ehm ((lip smack)) (0.8) las:t (1.0) no. (.) you- mm ((lip smack))
04 → l- (3.5) ((lip smack)) this morning,
05 → S ((head nod))
06 → C ~□εI□/ phone me (0.9) Australia.
07 S yeah ((yawns))
08 C ehm guess what
09 (1.0)
10 S what
11 (1.5)
12 C you┐ and me
13 ┌she's moving back (1.0) you and I yeah=
14 C =no (.) you and I,
15 S (you mean) you and me
16 ((both laugh))
17 C ehm god-par-ents.
18 (1.2)
19 S godparents.
20 C yeah.
21 (0.8)
22 S only if we go there.
23 C yeah,

Extract 7

01 C yes summer house.
02 S ((*laughs*)) yeah yeah (.) (in) a couple of weeks ([)
03 [yeah
04 (0.3)
05 → C four weeks ago no (0.8) four weeks more.
06 S mm (0.3) well the base is down now.

Extract 8 ((S = Sam; C = Connie; SLP = speech-language pathologist))

01 S she used to lick them to death didn't she. (.) licked them to [death
02 SLP [awwh::
03 → C ehm ((*lip smack*)) (.)°uh° (1.1) ((*lip smack*)) nine years ago .hh
04 → ehm (.) ((*lip smack*)) (0.2) the dog (0.3) eh died a heart attack
05 SLP awwh [that was your [alsatian
06 C [yeah [yeah

Extract 9 ((C = Connie; J = Jane))

01 J yeah that's all I bin doin' 'part from (0.2) bit a
02 decorating (0.8) umm (1.0) (yeah)=
03 → C =tuh (0.2) July no- June um (0.2) tuh three tier
04 → wedding cake (0.2) I make it=
05 J =are ↑yuh
06 C yeah
07 (0.3)
08 J brilliant

TABLE

		Pre-intervention scores	Post-intervention scores
Cognition	Ravens coloured progressive matrices	8/12	9/12
	Pyramids and palm trees	10/10	10/10
	Verbal fluency: animals	14	13
	Verbal fluency: S	4	12
	Visual recognition	10/10	10/10
	Ideomotor apraxia	10/12	11/12
	Picture description	9/10	8/10
	Arithmetic	3/6	1/6
Language	Auditory comprehension: single words	29/30	29/30
	Written comprehension: single words	29/30	28/30
	Auditory comprehension: sentences	28/32	23/32
	Written comprehension: sentences	23/32	19/32
	Repetition: single words	5/32	11/32
	Naming: nouns	18/48	27/48
	Naming: verbs	6/10	10/10
	Reading: real words	18/48	29/48
	Writing: copying letters	23/27	27/27

**Table 1: Raw scores on subtests of the Comprehensive Aphasia Test (CAT)
(Swinburn et al., 2004, pre-publication version)**

FIGURE 1

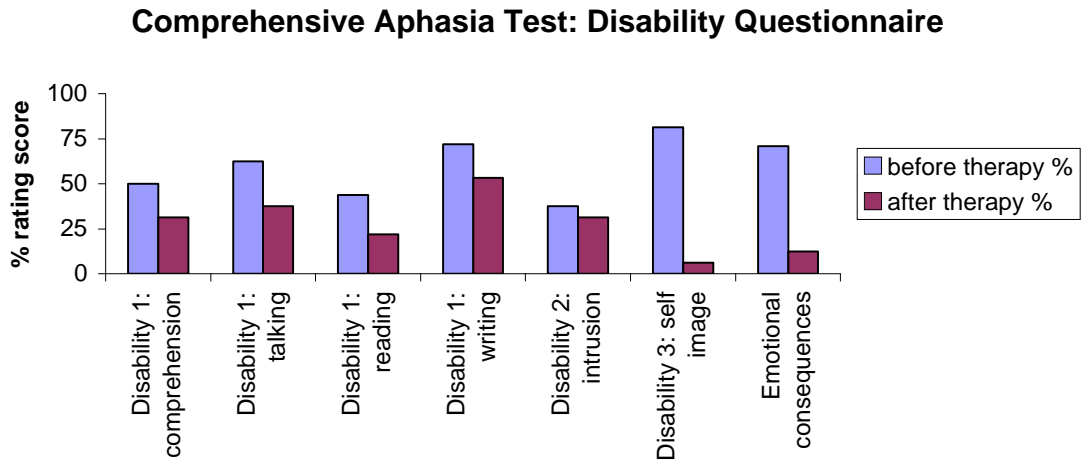


Figure 1: Comprehensive Aphasia Test (CAT): Disability Questionnaire

FOOTNOTES

^L

ⁱ For reasons of confidentiality, these names are pseudonyms, as are names of people or places in the conversational transcripts that might lead to identification of the couple.

ⁱⁱ In this and the following extracts, S = Sam and C = Connie. Where necessary, the transcription of these conversations provided in Lock et al. (2001) have been re-done in order, for example, to provide more detail of how the topic initiating turns are produced, what the conversational context is in which they are produced, and how they are responded to.