

**A case series examination of interaction-focused therapy for
aphasia**

A Thesis submitted to the University of Manchester for the degree of Doctor of
Philosophy in the Faculty of Medical and Human Sciences

2014

Sarah Fox

School of Psychological Sciences

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Final word count: **93,460**

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Abstract

The University of Manchester

Sarah Fox

Doctor of Philosophy, Medical and Human Sciences

A case series examination of interaction-focused therapy for aphasia

03 February 2014

This study reports the application and outcomes of Conversation Analysis (CA)-motivated interaction-focused therapy for a case series of eight couples managing the impact of aphasia on their conversations. It builds on previously reported interaction-focused therapy case studies (e.g. Lock, Wilkinson, & Bryan, 2001, Wilkinson, Bryan, Lock & Sage, 2010; Wilkinson, Lock, Bryan & Sage, 2011). Therapy was individualised for each couple, based on CA findings, but taking account of language, cognitive and self-reported disability assessments, and the couples' own observations during informal interviews.

The participating couples were beyond the spontaneous recovery period for aphasia and presented with different types (e.g. Wernicke's, Broca's, Anomic) and severities of aphasia. Each couple video-recorded at least 80 minutes of baseline conversation at home, over eight recordings of ten minutes or more. Another eighty minutes were recorded immediately post-therapy, and again three months later. Results were evaluated by comparing pre- and post-therapy data, with the maintenance data used to evaluate whether changes were sustained three months after therapy ended.

The findings indicated that four couples implemented behavioural changes following interaction-focused therapy. There was no systematic evidence of change in the other four couples' data. Reasons for successful and unsuccessful outcomes are hypothesised, including resistance to changing adaptations that mask aphasic difficulties, despite the loss of communicative effectiveness these adaptations may cause. Preliminary analysis of linguistic and cognitive assessment data has not revealed any patterns that can be related to response to therapy, but more work is warranted to further explore this data.

New findings include two interaction-focused therapy targets: 1) eye gaze by people with aphasia to stall/mobilise help with repair from their partners, and 2) facilitating the person with aphasia to gain the floor more regularly by beginning a turn in the partner's turn space. Other new findings are the use of CA to assess aphasic comprehension impairments, the effectiveness of environments of possible occurrence (Schegloff, 1993) as a measure for evaluating success in interaction-focused therapy studies, and benign pedagogics.

The study identified some areas for future research, including the development of an interview to elicit attitudes and beliefs about managing aphasia, as these seemed to influence response to therapy. Clinical applications have been suggested in terms of when this form of therapy may be relevant and for whom it might be expected to prove beneficial.

Declaration

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning

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Acknowledgements

I would like to thank my supervisors Professor Ray Wilkinson, Dr. Karen Sage and Dr. Paul Conroy for their expertise, collaboration and guidance during my PhD study. I have learned a great deal from working with them. I would also like to thank Professor Shelagh Brumfitt for the interest that she showed in the work, and the helpful comments that she made to the drafts. My examiners, Dr Simon Horton and Dr Fiona Ulph also deserve acknowledgement for their constructive comments that have resulted in a more complete thesis that better reflects the study that I completed.

On a personal note, I would also like to thank my partner, Mike, and my family and friends, for their unrelenting support, motivation, sympathy and good humour through the many ups and downs of the last three years. My dad deserves a special acknowledgement as his influence inspired me to follow this career path.

This study would not have been possible without the participation of the people with aphasia and their partners who gave their time generously, co-operated throughout, and provided many cups of tea and coffee.

The study was funded by a Doctoral Research Fellowship from the National Institute for Health Research (DRF 2009-02-46).

The Author

I graduated from Macquarie University, Sydney, Australia with a Bachelor of Speech and Hearing Sciences in 2005, followed by a Master of Speech and Language Pathology in 2007. During that taught Masters, I elected to complete a research study into conversational therapy for couples dealing with aphasia, supervised by Professor Beth Armstrong, who introduced me to the world of research and inspired me to pursue this as a career.

CHAPTER 1

INTRODUCTION

This thesis explores whether a relatively new form of aphasia therapy, interaction-focused therapy, can be used to assist couples to better manage the impact of aphasia on their everyday conversations. It reports a therapy study, described in the following chapters, that uses a case series design to investigate the effects of interaction-focused therapy across couples dealing with different types and severities of aphasia. The study draws on the notion of adaptation, or how people with aphasia and their conversation partners design their talk in ways that are distinct and systematically different to their premorbid patterns due to the language impairments of the speaker with aphasia, and the impact of those impairments on the couple's conversations (Wilkinson, Lock, Bryan & Sage, 2011). Adaptation is described in more detail in Section 1.4.3. This chapter sets out the background to this study, beginning with a brief overview of aphasia and some of the therapies that have been described previously. Then the features of Conversation Analysis (CA) that have been shown to be most relevant to the investigation of aphasia to date will be described, and in particular how CA has been applied to aphasic conversation to identify adaptations that are seen in the talk of people with aphasia and their conversation partners. Following this, studies that have been reported where CA has been used to motivate interaction-focused therapy for couples where one partner has aphasia will be summarised and evaluated. The chapter will end with a discussion of the current research project, with a focus on what it adds to the existing literature.

1.1. Aphasia and aphasia therapy

Aphasia is an acquired language disorder that may result from stroke (Kagan, Winckel, Black, Felson Duchan, Simmons-Mackie & Square, 2004). It is not a unitary condition, but may manifest in difficulties producing and understanding spoken and written language. It ranges from mild to severe (Goodglass, Kaplan, & Barreso, 2001) with global aphasia being the most severe manifestation, with impairments in all aspects of language and some people being unable to produce any speech sounds voluntarily. In Wernicke's aphasia, there are impairments in producing and understanding language, but typically speech is produced fluently with normal patterns of intonation. Speakers with Wernicke's aphasia tend to produce neologisms and are generally poor at self-monitoring, due to their comprehension difficulties. Broca's aphasia is characterised by nonfluent, agrammatic speech that sounds effortful and halting. Typically speakers with Broca's

aphasia have good comprehension skills and are able to monitor their own output. Anomic aphasia can be the mildest manifestation, and is characterised by word finding problems in fluently produced speech with good comprehension. Aphasic difficulties may be more severe in one modality than another, so that for some people written language may be better preserved than spoken language while for others the reverse may be true. Inevitably aphasia significantly impacts everyday conversations and it is during conversation that the linguistic difficulties of people with aphasia are most evident and most distressing (e.g. Wilkinson, 1999a). When a person with aphasia engages in everyday conversation, common aphasic difficulties, such as the inability to retrieve words, become 'visible'. This is exemplified by a quote from a person with aphasia: "when I'm home alone, I don't have aphasia" (Shadden & Agan, 2004: p.176).

Within aphasiology, there are four broad approaches to the assessment and treatment of aphasia: impairment-, communication-, psychosocial- and interaction-focused. These approaches are not mutually exclusive but may be addressed concurrently during treatment. Traditionally the aim of aphasia therapy has been to remediate the impaired language or linguistic component as identified through standardised assessments such as the Boston Diagnostic Aphasia Examination (BDAE: Goodglass, et al., 2001) which has traditionally been used to classify types of aphasia (e.g. Wernicke's, Broca's, Anomic, and Global) and includes the Boston Naming Test (BNT: Kaplan, Goodglass, & Weintraub, 1983), a picture-naming assessment. For example, impairment-based therapy for word finding difficulties, one of the most common impairments in aphasia (e.g. Nickels, 2002) may involve confrontation naming, where correct production of the name of the stimulus (e.g. a picture or object) is the target. Correct production is cued by the therapist based on the nature of the linguistic impairment, and often comprises repetitive drills on selected words, with the therapist increasing or decreasing cues as the person with aphasia becomes more (or less) successful at producing the target. There is evidence that naming therapy can result in improved access to treated words in other elicited contexts including connected speech tasks, but limited evidence that therapy results in changes to conversational level language use (e.g. Conroy, Sage, & Lambon Ralph, 2009). Herbert, Best, Hickin, Howard, and Osborne (2003) used a combination of impairment and interactionally-based approaches to train words and then measure their use in communicative speech situations. Post-therapy measures

involved analysing the production of trained nouns by their six participants, during interaction with one of the researchers in a structured communication task that was designed to elicit a trained noun. This study attempted to demonstrate that improved naming could generalise to everyday communication, as evidenced by five of their six participants. While the 'quasi-real speech task' (Herbert, et al., 2003: p.1181) used in this study is not directly comparable to naturally occurring everyday conversations, a relationship between picture-naming skills and conversational performance has been reported (Herbert, Hickin, Howard, Osborne, & Best, 2008) between people with aphasia and their regular conversation partners.

Communication-focused assessment and therapy targets the impact of aphasia at what the International Classification of Functioning (World Health Organization, 2001) would define as the activity level of people with aphasia. For example, the Communication Activities of Daily Living-2 (Holland, Frattali, & Fromm, 1998) is an assessment tool that identifies how an aphasic impairment affects every day functioning in a range of settings appropriate to the client (Frattali, 1992). It can be used to drive communication-focused therapy with the goal of improving functional communication skills. Conversational Coaching (Hopper, Howard, & Rewega, 2002) is one example of communication-focused therapy. The therapy involves the Speech and Language Therapist (SLT) working with the couple to improve their 'transactional' communication, using verbal and nonverbal modalities. The SLT and couple review data produced by the participants, and the clinician suggests verbal and non-verbal strategies for the couple to use to improve their communicative success and reduce potential frustration. Therapy involves the person with aphasia viewing videotaped stimuli and then recounting the contents to their partner who has not seen the stimuli. Hopper, et al. (2002) demonstrated that conversational coaching improved couples' abilities to co-construct transactional meanings, i.e. conveying information (Brown & Yule, 1983), in contrast to interactional meanings, which are phatic in nature.

Both impairment- and communication-focused approaches to therapy tend to focus on the transactional aspects of language, i.e. conveying information (Brown & Yule, 1983) and to occur in artificial settings, for example with the therapist working with the person with aphasia alone, or the couple using pre-selected stimuli to generate "conversation" rather than naturally-occurring talk about topics selected by the couple. The language activities typically engaged in during such aphasia therapy

sessions do not resemble the communicative activities that people with aphasia engage in outside the clinic setting and partners are not routinely invited to participate (Boles, 1998). The need to generalise the skills developed in the clinic to other settings is only sometimes addressed during therapy and may be of limited success. For example, if the behaviours that have been introduced in therapy are not based on a person's own behavioural preferences or highlight communication differences, in the way that some compensatory strategies such as gestures may, they may not be incorporated into the everyday behaviours of the person with aphasia (Simmons-Mackie & Damico, 1997).

Psychosocial-focused therapy is primarily concerned with changing the psychosocial experiences of people with aphasia. It achieves this by targeting the behaviours of partners that constrain people with aphasia from participating maximally in conversations, or displaying their competence fully. In some instances, changing the partners' behaviours, results in changes in the behaviours of people with aphasia also. It includes education and training to reduce the barriers that people with aphasia experience as a result of their communication disability.

“Communication ramps” (Kagan & Gailey, 1993), analogous to the wheelchair ramps for people with physical disabilities, may be needed because social engagement can be constrained if partners are not skilled at optimising the participation of people with aphasia (Kagan, Black, Duchan, Simmons-Mackie, & Square, 2001). The development of Supported Conversation for Adults with Aphasia (SCA) (Kagan, et al., 2001) addresses the issue that aphasia tends to mask the competence of speakers in conversation, and thus have an impact on their social engagement. By focusing on training volunteers to use different conversational practices and to accept verbal and nonverbal modes of communication, the competence of the person with aphasia may be revealed. Measures of the effectiveness of this type of therapy include the Measure of skill in Supported Conversation (MSC) and the Measure of Participation in Conversation (MPC) (Kagan, et al., 2004), designed for use by independent judges to measure changes in conversational interactions between people with aphasia and volunteer partners before and after the volunteers received training.

In summary, impairment-based therapy targets remediation of the linguistic deficit; communication-based therapy targets maximisation of functional communication skills, including use of compensatory strategies; and psychosocial-

based therapy aims to reduce the barriers to social engagement. In order to be successful, impairment-based therapies, such as naming therapy (e.g. Nickels, 2002), and mapping therapy (e.g. Rochon, Laird, Bose, & Scofield, 2005) need to result in improvements in the everyday communication of the person with aphasia, rather than an improved ability to perform specific tasks (Lesser & Algar, 1995). A further approach to the analysis of and therapy for aphasia has been developed relatively recently: interaction-focused therapy, motivated by CA.

Before discussing this form of analysis and therapy, a description of qualitative approaches in aphasia, in particular, those which are relevant for this thesis are outlined. This is followed by a description of CA, the main methodology used in the project, including a summary of the main findings of CA and how they relate to conversations involving people with aphasia.

1.1.1. Qualitative approaches in aphasia and aphasia therapy

Within health research, there are essentially three approaches to qualitative research, all derived from the social sciences (Thorne, 2011): phenomenology (primarily used in psychology to explore human experience); ethnography (an anthropological methodology used to describe universal aspects of human nature through observation of cultural behaviours); and grounded theory (concerned with understanding the social processes that are used to organise human behaviour and society). However, the motivations of social scientists and health researchers differ, with social scientists being concerned with how health issues may express or reflect some psychological, social or cultural aspect of human beings and health professional researchers concerned primarily with finding solutions to health-related problems. The methodologies used to investigate health research need to be useful contextually in order to serve the research question in a coherent way (Thorne, 2011). For the purposes of addressing the research question in this study, interviews were chosen as the qualitative approach with which to complement the CA, and thematic analysis (Braun & Clarke, 2006) was selected as the method of analysis of this data.

Traditionally, aphasiology has applied quantitative approaches in both research and clinical settings. For example, Quantitative Production Analysis (Saffran,

Berndt, Schwartz, 1989) was developed to quantify morphological and structural aspects of the narrative speech of people with nonfluent aphasia (Rochon, Saffran, Berndt, & Schwartz, 2000). However, qualitative methodologies are being used, for example, to capture individuals' experiences, and inform the understanding of how aphasia impacts activities and participation in everyday life (Damico, Simmons-Mackie, Oelschlaeger, Elman & Armstrong, 1999; Parr, 2001; Simmons-Mackie & Lynch, 2013). A recent review of the aphasia literature showed an increase in the number of qualitative research articles published over the past 20 years. The prevalent topic was how the experience of aphasia was perceived by people with aphasia, family members, carers and SLTs, with the most prominent data collection method being interviews and focus groups (Simmons-Mackie & Lynch, 2013). In one study, in which 50 people with aphasia were interviewed, a range of complex and wide-reaching social and psychosocial problems were identified (Parr, 2001). These included not only communication problems but difficulties associated with work and education, financial concerns, relationships, sense of identity, and maintaining interests (Parr, 2001). Another study involving three people with aphasia used diaries, interviews and stimulated recall to investigate how aphasia impacted social affiliation and satisfaction with conversations (Davidson, Worrall, & Hickson, 2008). In another study 29 people who had had strokes, some of whom had aphasia, were interviewed about the impact of stroke on maintaining friendships (Northcott & Hilari, 2011). The findings indicated that people with aphasia had particular difficulty maintaining friendships and tended to experience more hurtful and negative behaviours within friendships than the participants who had not become aphasic as a result of their stroke (Northcott & Hilari, 2011).

As well as life experiences, there are also qualitative methods which aim to describe the linguistic behaviours of people with aphasia, often in natural contexts, such as discourse analysis (e.g. Armstrong, 2000) and pragmatics (e.g. Penn, 1999). CA is another qualitative methodology that has been used to investigate the interactive behaviours of people with aphasia participating in everyday conversations with significant others. Qualitative methods offer strengths and weaknesses in terms of measuring behaviours, and therapy outcomes. One strength of qualitative research is that it enables in-depth exploration and description of individual attitudes, emotions and experiences, as well as enabling researchers to explore the reasons for

the behaviours and strategies that may be displayed by people with aphasia and their significant others (e.g Davidson, et al., 2008; Parr, 2001). However, qualitative approaches have been criticised because they often look subjective, they may be considered to lack rigour and the findings may not be perceived as readily generalisable due to the relatively small number of participants typically involved in qualitative studies (Parr, 2001). To counter some of these criticisms, extracts of data from qualitative studies are often published to illustrate the claims that are made and allow other researchers the opportunity to view the evidence on which findings are based. For example, CA publications typically contain data extracts (e.g. Schegloff, et al, 1997) while studies reporting interview data typically contain quotations from interviewees and/or researchers' fieldnotes (e.g. Davidson, et al., 2008).

1.2. Conversation Analysis

CA is a qualitative methodology that is grounded in ethnomethodology. It has been described as “the systematic analysis of the talk produced in everyday situations of human interaction: talk-in-interaction” (Hutchby & Wooffitt, 2008: p.11). Ethnomethodology is an observational approach to the analysis of data, and is concerned with describing ordinary social activities, and how the phenomenon that can be observed are produced and understood by the participants (Francis & Hester, 2004). Ethnomethodology enables the analyst to describe how the achievement of intelligible everyday actions and their organisation is accomplished (Maynard & Clayman, 1991). In other words, how social life and social order are achieved, by people making sense of what occurs and understanding what their own actions should be in order for them to be relevant to those of other people. CA has been described as the most influential methodology to emerge from ethnomethodology (Maynard & Clayman, 1991), because of its impact across a range of social sciences, including social psychology, linguistics and cognitive psychology (Heritage, 1984). It has been described as a means of dealing with "the invisibility of commonsense" (Ten Have, 1990).

Talk-in-interaction is described as indexical, referring to the way in which any utterance is dependent on its context to be understood (Maynard & Clayman, 1991). In other words, an utterance that may be grammatically incomplete, or that contains a proverb only, may be understood by the participants because it is tied to the prior talk, specifically the prior turn (Sacks, 1967, in Maynard & Clayman, 1991). This is

exemplified in the adjacency pair, where a second pair part may be understood in relation to the first pair part (e.g. an answer may be understood by reference to the preceding question). In this way, CA conceptualises 'context' as the unfolding interaction, rather than necessarily the situation or setting (i.e. a casual interaction, a formal institutional interview). Talk-in-interaction is therefore the context and each utterance is context-shaped (i.e. produced in relation to the prior utterance) and context-renewing (i.e. forming the context for the next utterance) (Heritage 1984).

For the purposes of CA, recorded conversations offer a resource that can be used to investigate these phenomenon because the recordings can be reviewed repeatedly to enable analysis of how speakers establish and maintain mutual understanding during naturally-occurring everyday conversations (Hutchby & Wooffitt, 2008). This requires analysis of not only the talk-in-interaction, but also with other nonverbal communicative behaviours such as gaze and gesture (Goodwin, 1981; Heritage, 1984). For this reason, data in the form of video-recordings have become increasingly used because they facilitate analysis of nonverbal as well as verbal behaviours. This is relevant when a turn comprising a nonverbal behaviour is context-shaped, or context-renewing and is available for analysis only when the data are visual. This is illustrated, for instance, in the analysis of a doctor/patient interaction, where the patient's talk is context-shaped by the nonverbal behaviours of the doctor while he uses a computer (Heath, Luff, & Sanchez Svensson, 2007). CA is concerned with how people achieve actions through ordinary talk (Schegloff, 2007) and nonverbal communicative behaviours (Goodwin 1981). Rather than approaching the data with a pre-formed hypothesis to test, the analyst is required to study the data closely to find things that may otherwise not be noticed (Sacks, 1984). The CA literature includes descriptions of various features of naturally occurring conversations, including how turn taking is accomplished, the methods by which speakers construct their turns in the form of Turn-Constructional Units (TCUs), the sequential structure of talk-in-interaction, and how repairs are managed when trouble occurs. It focuses on how participants jointly orient to the actions that are being done so that the interaction is orderly and meaningful. For example, participants collaborate to achieve such things as orderly turn taking by orienting to the 'rule' that only one person speaks at a time so that the duration of overlapping talk is brief because one speaker drops out. Similarly, once speakers have begun a turn, participants orient to their having the right to complete their turns unimpeded until

they reach a possible turn completion point, (Sacks, Schegloff, & Jefferson, 1974), when a new speaker may begin a turn. A number of features are common to all conversations: participants take turns to talk; only one speaker tends to talk at a time; gaps or overlaps between turns are minimal; and turn order and turn size vary (Sacks, et al., 1974). The methodology of CA will be described below, followed by a discussion of findings that have been shown to be salient in terms of how people with aphasia and their partners manage conversations.

An important aspect of CA is the methodology for the collection, transcription and analysis of data. All the findings that CA has generated are based on audio or video-recorded data of talk occurring during actual interactions (Hutchby & Wooffitt, 2008). CA does not use an experimental framework and data are viewed from an unmotivated position which means that rather than predicting an outcome and then testing that against the data, findings cannot be predicted in advance, but emerge from repeatedly studying the data (Hutchby & Wooffitt, 2008; Sacks, 1984). Using the methodology of CA involves analysing the way in which participants orient to various phenomena in order to describe what is normative (such as the rule that one person speaks at a time). This may be done through detailed analysis of single cases where various phenomena may be identifiable in one conversation, or by analysing a collection of data to investigate a particular phenomenon of interest (Schegloff, 1987; Hutchby & Wooffitt, 2008).

1.2.1. Turns and turn-constructive units (TCUs)

Turns at talk are produced in order to accomplish actions. For example, producing a turn that comprises "good morning" does the action of a greeting, and a sequentially relevant response does the action of reciprocating that greeting (Schegloff, 2007). Other actions produced by turns-at-talk include asking and answering questions, giving and accepting (or declining) invitations, making assessments and agreeing (or disagreeing) with those assessments. Turns may occur within sequences, for example, a first pair part in the form of a question, makes an answer relevant as the second pair part, and these two parts together form one type of adjacency pair (Schegloff, 2007), i.e. a question and answer sequence. Conversations comprise one or more sequences of turns whereby speakers accomplish actions through talk (Schegloff, 2007). When speakers begin to talk they are initially entitled to one TCU (Sacks, et al., 1974), at the end of which there is a "transition-relevance

place” (TRP), where it is possible for another speaker to begin a turn. However, change of speaker does not always happen at the end of the first TCU: the first speaker may continue talking beyond the possible completion point by extending the TCU, or beginning a new one. Overlapping talk, where more than one speaker is speaking, can occur if a new speaker begins a turn because he has identified a possible TCU, but the first speaker continues to talk. In this case, one of the speakers typically surrenders their turn quickly to minimise the overlapping talk (Schegloff, 2007).

Turns are distributed during conversations, with speakers being entitled to talk as a result of self-selection or because they are selected by the previous speaker. One speaker can select the next by producing a turn that makes a response relevant and, by responding, the listener becomes the next speaker. It may not be clear from the structure of a turn who should speak next. Therefore, if no other participant is selected as the next speaker during the current turn, then the current speaker may self-select if no-one else begins to talk when that speaker reaches a TRP (Schegloff, 2007). If a speaker self-selects at the end of a TCU, his turn will comprise more than one TCU. In some cases, a speaker’s first TCU may indicate that his turn will comprise multiple TCUs. For example, by prefacing a story, a speaker effectively claims an extended turn space because production of the initial TCU ‘announces’ that a story, comprising multiple TCUs, will follow (Schegloff, 2007).

TCUs are units of talk that may comprise a single word, clause, phrase or sentence (Sacks, et al., 1974). They can be heard as complete by a listener due to their grammar, intonation and the action that they constitute in that particular context (Schegloff, 2007). A turn may comprise one or more TCUs and the unfolding shape of a TCU allows the listener to predict when the turn will be possibly complete, and thus when the next TRP will occur. It is by being able to anticipate when the TCU will be possibly complete that the listener can choose to begin a turn him/herself with minimal delay, or overlap, between turns (Schegloff, 2007).

During production of a turn (or a TCU), speakers are expected to talk continuously until they reach a possible turn completion point (Sacks, et al., 1974). It has been observed that a pause within a turn (or TCU) is noticeable to the participants if it has a duration of approximately one second or more (Jefferson, 1989). When a pause is this long, participants tend to treat it as problematic. There is evidence that the pauses that occur during word searches may be longer than this

'standard maximum' of one second (Jefferson, 1989), but that nonetheless, participants tend to take steps to terminate the pause, for example by the listener proposing a candidate word. This is illustrated in the following extract where Heath is searching for a word and leaves a silence of 0.9 seconds at line 3, after which Joan comes in at line 4 with a candidate to end the pause:

Example 1 (Jefferson, 1989)

1 Heath .hhh Ah: he thinks that it's uh as much as anythin:g
2 ah:m a um:
3 (0.9)
4 Joan ar[:thritis.
5 Heath [uh

The transcription conventions used throughout this thesis are based on Hutchby and Wooffitt (2008), as shown in Appendix 6 (see CD Rom). The transcription methods are described in Section 2.4.2 (page 52).

1.2.2. Sequences

In many cases turns project a sequentially relevant next turn (Schegloff, 1979). A turn that comprises the first pair part (FPP) of a two part “adjacency pair” makes relevant a second pair part (SPP) (Schegloff, 2007). For example, an adjacency pair that has a question as its FPP, makes relevant an answer as the SPP. Similarly an FPP comprising an invitation makes an acceptance or a declination relevant as the SPP (Schegloff, 2007). In this way, courses of action are enacted through sequences, so that a request produced as an FPP may be either taken up or declined in the turn that comprises the SPP. However, FPPs place constraints on the action that the SPP does, and the form that it takes because different actions require different types of ‘positionally-sensitive’ grammars (Schegloff, 1996). On completion of an FPP, an SPP is made relevant, and if a gap occurs between the FPP and the SPP this may be noticeable, and may mark a delay in progressivity within that sequence. Sequential relevance allows each turn to display an understanding of the preceding turn(s), or, if a preceding turn was problematic, that this was so. In other words, the hearer displays his/her understanding of what the speaker has said in the way s/he designs her/his own next turn.

1.2.3. Repair

In CA terminology repair refers to any attempt to deal with a problematic item (Schegloff, 2007). Any item has the potential to be treated as a trouble-source because the need for repair arises when an item is problematic for the hearer. Repair does not necessarily indicate an “error” as trouble may arise for reasons other than errors. Repair causes disruption to the ongoing talk with different repair trajectories delaying the progressivity of talk in different ways. When a repair initiation occurs, completing the repair becomes the purpose of the talk so that the original topic is suspended until the repair is complete. The repair may be completed quickly, for example a repair that is initiated by a speaker during his/her ongoing turn (self-initiation of repair) delays the progressivity within that turn-constructive unit but, typically, the trajectory is brief. In contrast, a repair initiated by the hearer during the following turn (other-initiation of repair) delays the progressivity within the sequence, and may require the speaker of the trouble-source to do some work to complete the repair. Thus a longer repair trajectory may occur.

Other-initiation of repair indicates that the hearer is unable to respond with a sequentially relevant next turn. In such cases the hearer’s difficulty is likely to be displayed with either an overt request for clarification or by a turn that is inappropriate and thereby displays that the prior turn was not understood in the way the speaker intended. The indication of trouble with the foregoing turn typically leads to a repair by the speaker of the original problematic turn (self-repair). The progressivity of the sequence is delayed while the repair is accomplished.

Repair may also occur when a speaker identifies a problematic understanding by the response that the hearer produces, for example, a misunderstood pronoun, or a joke that is treated as serious (Schegloff, 1992). The speaker has the choice to repair their previous misunderstood turn, termed “third position repair” because it is initiated in the third position within the sequence that began with the misunderstood turn (Schegloff, 1992). Similarly, “fourth position repair” occurs when a turn is not revealed as problematic until at least two subsequent turns have been produced. In this case, the misunderstanding becomes apparent when the first speaker produces a second turn, which enables the hearer to identify that their response to the initial turn represented a misunderstanding of that first turn. Such misunderstandings that occasion repair of turns that were not initially recognised as problematic lead to delays in the progressivity of the ongoing sequence (Schegloff, 1992).

A distinction between who initiates the repair (self or other) and who completes the repair (self or other) is important. Four patterns of repair sequence have been described (Schegloff, Jefferson and Sacks, 1977). These are self-initiated self-repair; self-initiated other-repair; other-initiated other-repair; and other-initiated self-repair (Schegloff, et al., 1977). Self-initiated self-repair describes the type of repair that occurs when a speaker recognises that his current turn is problematic and initiates a repair within that ongoing turn. Examples of self-initiated self-repair include termination of a TCU before it is possibly complete, followed by redesign of that TCU, or replacement of one word with another. This self-initiated self-repair, where the repair work is completed by one speaker before the next speaker begins a turn is the most common and the preferred form of repair because it causes least delay to progressivity and is least likely to suggest lack of competence on the part of the speaker (Schegloff, 1979; Schegloff, et al., 1977). Within CA ‘preference’ refers to the normative organisation of actions and how those actions are produced. It does not relate to personal ‘likes’ of participants (Schegloff, 2007). For example, in the following extract, speaker 'N' initiates a self-repair at the possible end of the TCU at line 2 with "I mean ..", and completes this at line 3, replacing ‘year’ with ‘quarter’:

Example 2 (Schegloff, et al., 1977)

1	N	She was givin me a:ll the people that
2	->	were go:ne this yea:r I mean this
3	->	quarter y' // know
4	J	Yeah

Self-initiated other-repair occurs when the speaker of the trouble-source begins the repair but does not complete it, and it is completed by another participant. In the following example, B begins the self-initiation of repair at line 1, saying "Mistuh W- whatever k- I can't ..." but does not complete it. A then completes the repair at line 3.

Example 3 (Schegloff, et al., 1977)

1	B->	he had dis uh Mistuh W- whatever k- I can't
2		think of his first name, <u>Watts</u> on, the one thet wrote // that piece
3	A	Dan Watts.

An example of other-initiated self-repair is shown in the following example. In this case A does an other initiation of repair at line 2 in the form of "who?", and B self-repairs (by repeating the relevant part of the trouble-source turn) at line 3.

Example 4 (Schegloff, et al., 1977)

1 B Oh Sibbie's sistuh hadda ba:by bo:way.
2 A-> Who?
3 B Sibbie's sister.
4 A Oh really?
5 B Myeah,
6 A (that's nice.)

The least preferred repair pattern is other-initiated other-repair as this most closely resembles "correction" of the speaker by the listener. For example, in the following extract A describes the group as "we jus' playing around" (lines 6-7) and B does an other-initiated other repair at line 8 by replacing A's "playing around" with "Uh- fooling around." .

Example 5 (Schegloff, et al., 1977)

1 B Where didju play ba:sk//etbaw.
2 A (The) gy:m.
3 B In the gy:m?
4 A Yea:h. Like grou(h)p therapy. Yuh know=
5 B Oh:::
6 A half the group thet we had la:s' term wz there en we jus' playing
7 arou:nd.
8 B-> Uh- fooling around.
9 A Eh- yeah...

Other-initiated other-repair sequences are rare in peer conversations between non-communication disordered speakers, and correcting grammatical errors is especially rare (Schegloff, et al., 1977). Self-initiated other-repair and other-initiated self-repair fall between the most and least preferred forms. Self-initiated other-repair involves the speaker of the problematic utterance seeking assistance from the listener, for example because s/he is having difficulty retrieving a name. Other-initiated self-repair involves the listener displaying s/he is having some problem with the prior speaker's turn and seeking a repair, which the speaker of the trouble source produces.

Other-initiated forms of repair vary in terms of how specifically they identify the trouble source to be repaired. Examples of unspecified, or ‘open’ (Drew, 1997) other-initiations of repair would be “what” or “pardon me”, whereas more specific other-initiated repairs locate the trouble source by identifying, for example, that a person reference is unclear (e.g. “who”). The most specific other-initiation of repair takes the form of the listener formulating an understanding of the trouble source for the speaker to confirm or correct (Schegloff, 2007).

Repair tends to be noticeable only when it markedly disrupts the ongoing progressivity of talk (Schegloff, et al., 1977) and when it is unsuccessful: both self-initiated and other-initiated repair sequences can be unsuccessful and may be abandoned (Schegloff, et al., 1977). Different repair trajectories delay the progressivity of talk in different ways, either within the TCU or within the sequence. Other-initiation of repair breaks the contiguity between the original turn and the next relevant turn (Schegloff, 2007) because the listener, unable to produce the next relevant turn, initiates a repair, obligating the speaker of the trouble source to self-repair. This results in at least two turns occurring between the original trouble source and the next relevant turn. The preference for self-repair is often evidenced by a gap or delay between completion of the turn containing the problematic element and the next speaker other-initiating repair (Schegloff, et al., 1977). The gap at the TRP is hearable as the listener withholding repair to allow the speaker of the trouble source an opportunity to self-repair, which, if taken up, obviates the need for the relatively dispreferred action of other-initiation of repair.

1.2.4. Topic

Topic is an area of obvious relevance to CA investigations of talk-in-interaction, but is in some ways less straightforward than other areas to define and analyse. For example, defining the topic of an utterance is potentially problematic and attending to the topic may lead to analysis focusing on what the talk is about rather than the action the talk is doing (Schegloff, 1990). Also potentially problematic is defining where boundaries occur between topics because topics are often shifted gradually by a step-by-step transition (Schegloff & Sacks, 1973).

As well as being potentially problematic for analysts, topic shifts may be treated as problematic by listeners, and result in repair activity (Schegloff, 1979). In order to successfully shift the topic there is a need for collaboration by the participants. This

is required for an ongoing topic to be closed down and the new topic to become the focus and thus move the conversation onto a new trajectory (Button & Casey, 1984). New topics may be initiated, for example, by one speaker asking a question or making a news announcement, but these topic initiating turns will be successful only if the recipient treats them as shifting the topic, and responds with a sequentially relevant turn (Button & Casey, 1984). When speakers initiate new topics, they may use behaviours that help to orient the listener to what they are doing. The kinds of behaviours that may be used to achieve this vary, but in broad terms one speaker may produce a summary of the topic that is being closed down, and the listener(s) may acknowledge(s) this with an agreement token indicating their agreement to closing down that topic. These topic closing turns may be followed by a 'lapse', i.e. a brief silence or delay. When the next topic is initiated, this may be prefaced with a marker such as "anyway" to signal that the forthcoming talk concerns a new topic (Button & Casey, 1984; Drew & Holt, 1998; Holt & Drew, 2005). There is evidence that when closing down a topic, speakers may use figurative terms (Drew & Holt, 1998; Holt & Drew, 2005) such as in the extract below (Drew & Holt, 1998). At line 27, Lesley summarises the foregoing topic with the figurative term "he had a good innings", which Mum agrees with in line 28-29. After a brief gap, Mum adds "Marvellous" (line 31). Lesley then does a topic initiating turn, which she prefaces with a disjunctive marker "Anyway ...", and Mum responds with a sequentially relevant turn (line 35) that allows Lesley to pursue the topic that she has initiated.

Example 6 (Drew & Holt, 1998)

25	Lesley:	.t
26	Mum:	Hm:.
27	Lesley: ->	So he had a good inni:ngs did[n't he.
28	Mum:	[I should say so:
29		Ye:s.
30		(0.2)
31	Mum:	Marvellous,
32	Lesley:	.tk.hhhh Anyway we had a very good evening o:n
33		Saturday.
34		(-)
35	Mum:	Ye:s?
36	Lesley:	We went to North Cadbury: an' Gordon came too ...

There is evidence that repair tends to be relatively frequent on the first sentence of a turn that introduces a new topic or shifts the current topic (Schegloff, 1979). This may occur as either a self-initiation of repair by the speaker during production of that topic initiating turn, or by a listener doing an other-initiation of repair in the next turn (Schegloff, 1979). In Example 7, B's turn at line 5 changes the topic to 'Sibbie's sistuh' which A treats as problematic in line 6, and does an other-initiation of repair in the form of "who?", displaying some difficulty following the introduction of this new topic.

Example 7 (Schegloff, 1979)

1	B	Tch! I'll get some advance birthday cards, hhm hmh!
2		(0.6)
3	A	.hhh A:nd uh, (0.5) Me:h,
4		(0.2)
5	B	Oh Sibbie's sistuh hadda ba:by bo:way.
6	A	Who?

The occurrence of repair following topic initiating turns has been reported in the aphasic literature where, due to the linguistic difficulties of the participants, it may be more prevalent. This is described in more detail in Section 1.4.1 (page 27).

1.2.5. Progressivity

Progressivity refers to the expectation that any item should follow what has gone before and this applies at all levels of talk (Schegloff, 2007). For example, within a TCU, each adjacent item should follow the prior without delay, and within a sequence, the SPP should follow the FPP without delay. In other words, progressivity describes the way that each item of talk is produced and heard as the next in relation to what has gone before, with nothing intervening (Schegloff, 2007). Repair is one phenomenon that causes delays in progressivity (Schegloff, 1979). Self-initiations of repair constitute a delay to progressivity within the turn/TCU, while other-initiations of repair create delayed progressivity between the two turns of a sequence (Schegloff, 1979).

1.2.6. Preference

CA uses the term 'preference' to describe certain types of actions and the forms of the turns through which those actions are produced. Preference is not related in

any way to personal 'likes' of participants (Schegloff, 2007). Within a sequence, a preferred response is one that shows the second speaker aligning with the first (e.g. agreeing with the first speaker's assessment). For example, the preferred sequential response to an invitation is an acceptance, while a dispreferred response would be to decline the invitation. Generally preferred and dispreferred responses can be differentiated by their turn-constructural features. Preferred responses tend to be brief and produced immediately whereas dispreferred responses typically are produced after a delay and are likely to contain accounts (Schegloff, 2007). The preference for progressivity within conversation, and the preference for self-repair as described above, is particularly relevant for this study.

1.3. Applied CA

There is increasing interest in applied CA, and this term has been used to refer to the investigation of interactions from a specific perspective, such as investigations of interactions other than conversations involving peers. Typically normal peer conversation is used as the foundational form of talk-in-interaction (Sacks, et al., 1974) with other non-conversational forms of interaction being compared to it through forms of comparative analysis (Drew & Heritage, 1992). For example, the behaviours of participants within various types of institutional interaction can be analysed and compared with more mundane conversational data. These institutional groups and activities include consultations between patients and healthcare practitioners (e.g. Robinson, 2012; Heritage, et al., 2007; Beach & Anderson, 2003), calls from the public to request help from the police (Drew & Walker, 2010), and calls between government employment advisers and claimants who are seeking jobs (Drew, Toerien, Irvine, & Sainsbury, 2010). The interaction between patients and clinicians engaged in stroke rehabilitation has been analysed using CA (Horton, Howell, Humby, & Ross, 2011), as has the interaction between people with aphasia and SLTs during therapy sessions (Horton, 2006).

A second way in which CA has been applied is by using the findings from typical (non-communication disordered) conversation to elucidate conversations involving people with communication disorders. For example, by examining the conversation data of two speakers with dysarthria (a neurogenic motor speech disorder that affects intelligibility: Duffy, 2005) caused by motor neurone disease and their spouses, it was observed that the partners initiated repair when the intelligibility of the speakers

with dysarthria caused an understanding problem and that by re-doing the problematic part of the turn, the speaker with dysarthria could often, but not always, resolve the repair (Bloch & Wilkinson, 2009). In another example, CA was used to show how the overlapping talk in conversations involving speakers with dysarthria due to Parkinson's Disease differs from the "norm" in terms of when the speaker with Parkinson's Disease begins to talk in overlap (Griffiths, Barnes, Britten, & Wilkinson, 2011). CA has also been applied to the data of children with autistic spectrum disorder, with one study showing that the apparent tendency of a child to persevere and return to a particular topic may have been a collaborative interactional activity, rather than the result of the child's pathological fixation on topic of personal interest (Stribling, Rae, & Dickerson, 2009).

Within aphasia research, findings from CA have been applied to interactions between people with aphasia and their regular partners to reveal behaviours that differ from the "norm", (i.e., the patterns that are found in the data of non-communication disordered participants) due to needing to manage the impact of aphasia (e.g. Heeschen & Schegloff, 1999; Wilkinson, 2006). Typically, when CA has been applied to conversations involving people with aphasia, the data has been investigated in terms of behaviours that appear problematic, or that represent adaptations to coping with aphasic difficulties within conversations. These are described in Section 1.4 (page 27).

There is growing interest in applying CA to data and using the findings to motivate behavioural changes in institutional interactions. For example, CA was applied in a recent study to the form of a question asked by GPs in primary care consultations and revealed that substituting the word "any" with "some" towards the end of the consultation, (i.e., "is there *something* else you want to address in the visit today?" rather than "is there *anything* else you want to address in the visit today?") reduced the number of unmet concerns that patients had at the end of their consultation (Heritage, et al., 2007). Consequently, it was recommended that using the word 'some' rather than 'any', would reduce unmet patient concerns and therefore the need for additional consultations. In terms of aphasia therapy, CA has been applied to interactional data to motivate interaction-focused therapy (Wilkinson, 2010). This has been achieved by identifying potentially problematic behaviours to target, implementing therapy and evaluating its effects, as described in Section 1.6 (page 35).

1.4. CA and aphasia

The examples of CA discussed above have been selected because they have proved most salient when CA has been used to investigate the conversations of people with aphasia talking with partners/spouses and other close family/friends. For aphasiologists working with CA, it is how people with aphasia and their partners manage repair that has been of most interest (Ferguson, 1994; Perkins, 1995; Wilkinson, 1999b; Wilkinson, Gower, Beeke, & Maxim, 2007). By using CA to examine naturally occurring everyday conversations between people with aphasia and their partners, the everyday difficulties that couples experience in conversation can be described and, potentially, understood as a target for therapy.

The difficulties experienced by people with aphasia during conversation take a variety of forms, and CA offers a perspective from which to analyse both the difficulties and the strengths of people with aphasia that differs from more traditional assessments in a number of ways. It uses ecologically valid data (i.e. naturally occurring everyday conversations) so that it is possible to analyse how a person with aphasia copes in everyday conversation rather than in structured assessment tasks. It investigates the interactive nature of conversation by analysing the impact of the conversational behaviours of both speakers on the development of the ongoing talk (Perkins, 1995), for example how each speaker displays his/her understanding of the other's turns, and how s/he initiates (or not) repair on trouble sources.

1.4.1. Collaboration

Within conversation, the process of collaboration has been described as a method by which participants work together to jointly construct meanings. The joint construction of references in the form of noun phrases, such as proper nouns, definite descriptions or pronouns has been cited to illustrate collaboration (Clark & Wilkes Gibbs, 1986). A speaker may produce a reference and the listener may collaborate by displaying their understanding in the next turn (e.g. by an agreement token such as "Mh hm" (Clark & Wilkes Gibbs, 1986: p.8). Alternatively a reference may be produced in a way that is insufficient to be clearly understood and the speaker may act to engage their listener in the process of producing a more specific reference, for example by saying "What's her name, oh you know" (Clark & Wilkes Gibbs, 1986: p. 8). Or the speaker may self-initiate repair in response to a behaviour by the listener, such as a lack of response indicating lack of understanding, by giving

additional information or refashioning a noun phrase. Listeners may do an other-initiation of repair, leading both speaker and listener to "put in extra effort" (Clark & Wilkes Gibbs, 1986: p.6) to produce a reference that is understood. This analysis of collaboration led to a theory of least collaborative effort for conversation which purports that speakers and listeners work together to attempt to minimise the amount of collaborative effort that is required to achieve joint meaning (Clark & Wilkes Gibbs, 1986). By putting more effort into the initial production, speakers reduce the likelihood that their utterance will need to be refashioned, but three factors may hinder this: the time required to produce a more suitable turn; the complexity that may be involved in an ideal utterance; ignorance of what the listener may need or accept (Clark & Wilkes Gibbs, 1986).

The practice of collaboration has been reported in relation to aphasia, where it has been proposed that language deficits require more active participation by the non-communication impaired partner in order to achieve meaning with the least collaborative effort (Milroy & Perkins, 1992). For example, speakers with aphasia may not have the linguistic resources available to design an adequate turn and so may be forced to produce something that they anticipate will be a trouble source for the listener, who may be required to collaborate in completing or refashioning the initial turn. In one case study, a speaker with aphasia produced incomplete turns, which were completed by his listener in her next turn and confirmed by the speaker with aphasia in his next turn (Beeke, Wilkinson, & Maxim, 2007). Co-construction has been compared across communication disorders with evidence that both dysarthria and aphasia result in a range of collaborative turn construction practices, which are treated as unremarkable by the participants (Bloch & Beeke, 2008). Data involving a person with dysarthria speaking with a non-communication disordered partner included co-construction in the form of a sequence of joint letter-by-letter spelling of words (Block & Beeke, 2008). Data from a non-communication disordered partner collaborating with a speaker with aphasia included the non-communication disordered speaker refashioning the agrammatic turn produced by the speaker with aphasia to make it more complete for a third party listener (Bloch & Beeke, 2008).

1.4.2. Aphasia and repair

The potential need for repair can occur whenever two or more people are speaking (Schegloff, 1979). The potential for repair is inevitably greater for speakers with linguistic disorders such as aphasia, and hence repair has featured in much of the literature concerning CA and aphasia (Booth & Perkins, 1999; Wilkinson, 1999b). Linguistic deficits regularly lead to trouble in conversations involving people with aphasia who have limited resources available with which to repair difficulties that arise (Booth & Perkins, 1999). Aphasic troubles such as word searches, grammatical ambiguity, paraphasias and phonological deficits, may lead to repair initiated by the person with aphasia (i.e. self-initiation of repair), or by the conversation partner (i.e. other-initiation of repair).

1.4.2.1. Word searches: self-initiations

Most people with aphasia experience word finding problems (Nickels, 2002) which have the potential to disrupt conversations. When unable to retrieve a target word, people with aphasia may self-initiate repair with lengthy pauses, attempts to replace incorrect words with the target, continuers such as “uhm” and paraphasias (i.e. substituted words which may be phonologically or semantically related, or may be non-words, termed ‘neologisms’). Speakers with aphasia are unable to fulfil the preference for progressivity when they experience difficulty initiating and/or completing repairs due to word searches which delay production of their TCU (Wilkinson, 2007). Gaps and pauses (including those found during aphasic word searches) are noticeable with gaps between turns and pauses within turns of around one second or more likely to be treated as interactionally significant by participants (Jefferson, 1989; Schegloff, 2007) because they delay progressivity either of the sequence (gaps between turns) or of the turn (pauses within turns). In conversational data involving people with aphasia, there may be pauses that greatly exceed this normative expectation and are therefore heard as delaying progressivity of the turn. Turns containing such pauses may become vulnerable to other-repair in the form of guesses at the target word, or the repairable turn may lead to transition to the other speaker (Perkins, 1995), who may choose to introduce an entirely new topic (e.g. Beeke, Maxim, & Wilkinson, 2007).

Attempts at repair are not always successful (Schegloff, et al., 1977). Linguistic deficits mean speakers with aphasia may be unable to fulfil the preference for self-repair and partners may be unable to complete other-repair (e.g. Cunningham & Ward, 2003). Laughter may occur when a self-repair is unsuccessful (Wilkinson, 2007). The person with aphasia may laugh to mark their unsuccessful repair attempt, with or without a verbal account. Or the laughter may act as a “humorous noticing” of an error during a repair attempt. In both cases the laughter tends to indicate a sense of incompetence on the part of the person with aphasia, and an element of delicacy, and has sequential consequences (Wilkinson, 2007).

1.4.2.2. Word searches: candidate other-repairs

Word finding difficulties may lead to partners offering possible targets when speakers with aphasia are unable to access a word. In Example 8, D, the speaker with aphasia displays word finding difficulties when he says (lines 7-8) “in the er (1.9) behind uhm”, and then (line 12) “behind in the uhm (0.3)”. His partner, J, displays an understanding of his meaning and suggests “at the back of the garden?” to complete the repair (Wilkinson, et al., 2007: p. 86).

Example 8 (Wilkinson, et al., 2007)

1	J	well (they) think it's a bit laugh (.) °yeah°
2		(0.7)
3	D	and the only other thing I can think of is
4		that ((clears throat)) (2.1) the uhm (0.7)
5		<u>tree:s</u> , (1.3) that's gonna be <u>cut</u> do::wn
6		(0.5) to some of the (1.2) trees in
7		the (1.1) eh <u>garden</u> (1.3) in the er (1.9)
8		[(0.4) <u>behind</u> uhm]
9		[((waves hand in backwards motion))]
10	J	[°shall I take that out the way?°]
11		[((takes cushion from behind D's back))]
12	D	<u>behind</u> in the uhm, (0.3)
13	J	>at the <u>back</u> of the garden?<
14	D	back- [back of it.]
15	J	[yeah]

At other times, partners may be unable to display their understanding of the speaker with aphasia’s turn due to the trouble it contains. This is likely to lead to the partner

seeking clarification, potentially in the form of a long repair sequence (e.g. Booth & Perkins, 1999). The talk of speakers with aphasia often contains trouble-sources due to word finding problems that provide opportunities for partners to suggest candidate other-repairs, constituting self-initiated other-repair sequences.

1.4.3. Aphasia and topic initiation

Topic initiation can be problematic for people with aphasia because linguistic limitations may cause difficulties in producing a turn that listeners recognise as introducing a new topic. In one case study, the participant with aphasia had difficulty establishing new topics. This may have been because she did not typically signal her topic initiating turns with a disjunctive marker, such as "anyway", or because her new topics tended to be introduced somewhat abruptly, before either she or her partner had done any work to close down the prior topic. Her partner tended to have difficulty understanding her topic initiating turns, potentially because he was attempting to understand these turns in the context of the prior topic. As a result the progressivity of this couple's conversations tended to be delayed when the speaker with aphasia had difficulty getting the new topic established (Wilkinson, et al., 2011).

1.4.4. Adaptation

Adaptation refers to the way in which couples design their talk in ways that are distinct and systematically different to their premorbid patterns due to the impairments of the speaker with aphasia, and the impact of those impairments on the couple's conversations (Wilkinson, et al., 2011). Differences in ways of talking can be attributable to the fact that attempts to use premorbid speaking patterns would create troubles, and adaptations represent speakers' best attempts to cope with conversation and fulfil certain conversational expectations (e.g. progressivity) despite the linguistic limitations caused by the aphasia. For example, when people with aphasia attempt to use canonical grammatical structures and full form lexical items, they frequently experience word finding difficulties that delay the progressivity of their turns (Wilkinson, Beeke, & Maxim, 2003). Equally partners may adapt by allowing problematic items to pass, in the hope that clarification will emerge, rather than requesting repair which the person with aphasia may be unable to achieve (Wilkinson, et al., 2003). As aphasia presents differently from person to

person and from context to context, it is to be expected that different adaptation practices exist. The process of adaptation is mutual because each partner's behaviour affects the other, with severe aphasic difficulties impacting greatly on the kinds of adaptations couples are likely to develop. Adaptations that have been identified in aphasic speech to date are described below in terms of fluent and nonfluent aphasia.

1.4.4.1. Adaptation in nonfluent aphasia

An early neuropsychological theory of adaptation, based on the speech of people with agrammatic aphasia was that agrammatic speech represented a strategic choice by speakers with aphasia to use elliptical forms of expression (albeit to an excessive degree compared to that found in the speech of non-communication impaired speakers) because elliptical utterances are less complex and therefore reduce the load on the impaired syntactic system (Kolk & Heeschen, 1990). The notion of adaptation which was previously discussed in purely neuropsychological terms has, in more recent years, also been investigated as an interactional phenomenon, and as a phenomenon which can involve more than one speaker. In one interactional case study, variation was found within the talk of one person with aphasia interacting with the same partner whose behaviours varied, depending on whether the speaker with aphasia used full or elliptical forms (Heeschen & Schegloff, 1999). In this study the speaker with aphasia was able to produce full grammatical forms as well as telegraphic speech and there was evidence that telegraphic speech had certain interactional features. For example, when the person with aphasia produced telegraphic utterances, this mobilised a response from the partner who became actively engaged in collaborating to co-construct the TCU, turn or longer telling that had been produced using telegraphic speech initially. The involvement of the partner in such repair work allowed the speaker with aphasia to exercise flexibility in language use during talk.

Use of other adaptation practices by speakers with nonfluent aphasia include 'enactment' (Wilkinson, Beeke & Maxim, 2010), i.e. the use of directed reported speech accompanied by gestures and/or prosodic changes as an alternative to a verbal description, in particular one that would require use of a verb. Enactment has a number of linguistic advantages for speakers with nonfluent aphasia compared to other methods of describing an event, such as using verbs or indirect reported speech, which would require paraphrasing. Benefits of enactment include the need

for few if any verbs, few syntactic constraints, and fewer delays to progressivity within a turn. This allows the speaker with aphasia to produce a meaningful turn that progresses towards completion in a timely way, without experiencing the sort of difficulties (e.g. word finding or production problems) that an attempt at telling using other methods would be likely to cause (Wilkinson, Beeke & Maxim, 2010). In addition to being more efficient, enactment has the social advantage of reducing the visibility of the speaker with aphasia's linguistic incompetence (Wilkinson, Beeke & Maxim, 2010).

1.4.4.2. Adaptation in fluent aphasia

CA of two speakers with fluent aphasia revealed adaptations in turn construction, with the speakers using 'fronting', a non-canonical grammatical form comprising a referent followed by a noun phrase, rather than the grammatically complete subject-verb-object construction, and substituting general meaning lexical items such as 'do' for specific verbs and 'thing' in for specific nouns (Wilkinson, et al., 2003).

In a longitudinal study (Wilkinson, et al., 2007), one speaker with aphasia displayed different adaptations during spontaneous recovery. At the first data collection point (15 weeks post-stroke) two adaptations were evident i.e. 'replacement' and 'extension'. Replacement refers to self-initiated repair by the speaker on some part of the turn that has already been produced (Schegloff, 1979). An example of replacement is "well I've got all these thi:ngs, (.) these: (0.5) these: (0.5) saws" (Wilkinson, et al., 2007: p.84) where the speaker produces "things" with no delay. This general meaning lexical item fills the next-word-due 'slot', allowing the speaker to avoid an explicit word search, with that proform then being replaced with the semantically more specific word "saws". Extensions are additions to TCUs that are made after the TCU has reached a possible completion point (Schegloff, 1996). An example is "(there) the annoying part I particularly like those (1.3) those uhm (2.6) /trɒlə/ tr- tr- tr- trees" (Wilkinson, et al., 2007: p.86). This is then extended (beginning in overlap) with "in those particular a:reas". In both examples, the speaker is able to produce a turn that progresses towards possible completion with minimal delay, and either repair or add to the turn afterwards. At 30 weeks post-stroke the speaker uses these methods less frequently and a new practice, 'insertion', is in use. Insertion refers to redoing part of a turn with one or more additional items inserted (Schegloff, 1979). An example is " 'n it's not a very (0.4)

well it is quite (l-) la:rge, but I don't think it's very: (0.6) °built up° sort of area” (Wilkinson, et al., 2007: p.90). Here the speaker appears to be about to say " 'n it's not a very built up sort of area", but after the first few words, inserts "well it is quite (l-) la:rge, but I don't think it's very:". These adaptations enable the speaker to 'buy time', and avoid a potential word search, thus minimising attention on his language impairment and thereby his identity as a person with a language disorder (Wilkinson, et al., 2007).

In another study of a speaker with fluent aphasia, non-typical prosody appeared to represent an adaptation (Auer & Ronfeldt, 2004). The speaker reported consciously using paraphasias (both semantic and phonemic) along with non-typical prosody to avoid word searches that he felt drew attention to his language disorder. This was evident in decreased loudness when paraphasias were produced, apparently because the speaker was attempting to conceal his word finding problems, which he did not attempt to self-repair. He also made it difficult for speaker transition to occur at possible TCU completion points by embarking on new TCUs with increased loudness. The participant was aware that he could not access specific language in a precise way and used these practices to avoid delaying the progressivity of his turn. This speaker's metalinguistic awareness of his use of an adaptation provides evidence that in some speakers, in some situations, adaptations *may* represent strategic choices although in most cases they probably occur below the level of consciousness. However, in this case there was a cost to the listener who was potentially left with a turn that was difficult to decode, and no opportunity to check understanding.

1.4.4.3. Adaptations by conversation partners

Adaptations by conversation partners are discussed in the following section. Often termed 'maladaptive' behaviours (Turner & Whitworth, 2006a; Wilkinson, et al., 2011) when they are seen to cause negative emotions, such as distress, for one or more participants, these practices may represent attempts by partners to cope with conversation post-onset of aphasia.

1.4.5. Correct Production Sequences

Other-initiated repair sequences in aphasic conversations sometimes take the form of “correct production sequences” (CPSs) which are noticeable because they do not typically occur in peer conversation. A CPS occurs when a speaker with aphasia is unable to produce a word or phrase correctly that the partner is able to identify. However, rather than allowing the ongoing talk to progress, the partner initiates a CPS during which s/he repeatedly attempts to elicit correct production of the target from the speaker with aphasia, and rejects his/her approximations. Partners may attempt to use cueing and modelling techniques to facilitate production by the person with aphasia, who typically struggles to correctly articulate the word to an acceptable level, and may become distressed during the process (for examples see Booth & Perkins, 1999; Wilkinson, et al., 1998). CPSs delay progressivity, and may continue over many turns. For example, repair activity associated with CPSs occupied 78% of major turns in a conversation between an aphasic speaker and his brother (Booth & Perkins, 1999).

1.4.6. Question-Answer Sequences

Another form of adaptation to aphasic conversations is the excessive use of questions by partners which may affect the opportunities for active participation on the part of the person with aphasia. One instance is the use of ‘test’ or ‘known-answer’ questions (Schegloff, 2007). These are questions to which the questioner knows the answer and which typically occur in pedagogic interactions, including aphasia therapy sessions, where patterns of question-answer/response-evaluation are found (Horton, 2008; Simmons-Mackie, Damico, & Damico, 1999). Test question sequences are found in conversations between people with aphasia and their partners (Burch, Wilkinson, & Lock, 2002; Cunningham & Ward, 2003; Turner & Whitworth, 2006a, 2006b) and may represent partners attempts to the facilitate participation of the person with aphasia (Wilkinson, Bryan, Lock, & Sage, 2010). A further motivation may be that test questions minimise the likelihood of trouble occurring because the answer is known. Simmons, Kearns and Potechin (1987) describe the use of known-answer, (or ‘convergent’ questions), by the spouse of a person with aphasia as a potentially maladaptive behavioural response to aphasia. Wilkinson, Bryan, Lock, & Sage (2010) also report overuse of “wh” and “yes/no interrogatives” by a partner, which constrained the participation opportunities for the

person with aphasia: this is discussed in more detail below (see Section 1.6.1, page 35).

1.5. CA and cognitive skills

In addition to linguistic deficits, people with aphasia may have impaired cognitive skills. Cognitive skills include attention, memory, planning, scheduling, strategy use, initiating actions, shifting behaviours, and abstract reasoning (Helm-Estabrooks, 2002; Kiel & Kaszniak, 2002). These skills are needed to initiate and monitor goal-directed behaviours and to have the flexibility to change behaviour according to task demands. Impaired cognitive skills may co-occur with aphasia and account, at least in part, for some of the difficulties experienced by people with aphasia during everyday conversation. In one study (Frankel, Penn, & Ormond-Brown, 2007), CA of the turn taking, topic management, and repair sequences of a participant with mild aphasia revealed difficulties when self-repairs were attempted. The participant's difficulties appeared to be related to impaired attention and cognitive flexibility which prevented her from generating alternative means of conveying messages when conversational troubles arose. The relationship between conversational behaviours and cognitive skills has not been explored in terms of adaptations or with respect to the outcomes of CA-motivated interaction-focused therapy. This study set out to gather cognitive data to analyse, alongside the conversational data, to begin to explore whether any patterns could be identified between conversational strengths and weaknesses, and cognitive skills and difficulties.

1.6. CA and interaction-focused aphasia therapy

To date most CA-motivated aphasia therapy studies have comprised single, and have focused primarily on partners' behaviours rather than those of people with aphasia. CA represents a framework for the investigation of language use by people with aphasia during naturally occurring everyday conversations with regular conversation partners that more traditional language assessment batteries do not allow (Perkins, 1995). Clinically, in terms of planning and implementing therapy, CA enables the behaviours of both speakers to be analysed so that therapy can address the impact of each person's behaviours on the interactional patterns (Booth & Swabey, 1999). The main features of CA-motivated interaction focused therapy

are: 1) the pre- and post-therapy data comprises everyday conversations involving the person with aphasia and their main partner; 2) the data are analysed in the light of CA findings from non-communication disordered speakers; and 3) the therapy is designed as a result of CA analysis of the couple's own data (Wilkinson, 2010). These are important features in the process of planning, implementing and evaluating therapy, as will be discussed.

In applying CA to data involving speakers with aphasia, it is possible to identify how such data differs from data involving non-communication disordered speakers, and therefore which behaviours may be potentially problematic. Because CA is an observational methodology (Hutchby & Wooffitt, 2008) it may provide valuable analytical insights into behaviours of participants during talk-in-interaction, e.g. what action does a particular turn accomplish and what does a fellow participant do in response. However it does not shed light on the motives of the participants because these cannot be observed in the data. So CA may assist in identifying conversational strengths and difficulties that may point to particular targets for therapy but it does not reveal what the participants themselves think or feel about their behaviours, nor what their intentions are at any particular point in the interaction.

1.6.1. Using CA to plan interaction-focused therapy

When embarking on CA-motivated interaction-focused therapy, it is usual to follow the data collection, transcription and analysis practices of CA and for the therapist to review the data to identify potential therapy targets to discuss and agree with the couple (Lock, et al., 2001).

In many of the studies that have been reported, the focus of interaction-focused therapy has been the repair activities that have arisen due to the linguistic impairments of the speaker with aphasia (e.g. Beeke, Maxim, Best, & Cooper, 2011; Lock, et al., 2001). As described previously, impairments such as word finding problems may lead to word searches by the person with aphasia in which partners may, but do not always, participate, and these may be lengthy and disruptive (e.g. Beeke, Maxim, Best, & Cooper, 2011; Lock, et al., 2001). Another cause of repair occurs when the partner has difficulty understanding the person with aphasia's meaning. This typically results in the partner doing an other-initiation of repair such as repeating what they have heard with a questioning intonation, or guessing the

meaning. In one study, the partner tended to have particular difficulty understanding the talk of the person with aphasia when she produced a topic initiating turn (Wilkinson, et al., 2011). People with aphasia may display problems understanding the talk of their partners and this may be evidenced by them doing other-initiations of repair. Pedagogic behaviours by partners have also been identified in the pre-therapy data of couples participating in interaction-focused therapy, including the use of CPSs (e.g. Booth & Perkins, 1999; Lock, et al., 2001) and of known-answer questions (e.g., Burch, et al., 2002). Interactional difficulties have also been analysed that result from lack of activity by people with aphasia while they are engaged in a word search (Beeke, et al., 2011). In this case, there is nothing to indicate to the partner whether the person with aphasia has completed their turn and it is potentially problematic for the partner, or that the person is actively attempting to complete the turn. This causes difficulties for the partner who may be unsure whether to begin a turn themselves or wait for the person with aphasia to complete their turn.

Not only do partners initiate CPSs, but at times they withhold help in completing these CPSs, even when this is explicitly requested by the person with aphasia (Booth & Perkins, 1999). The reasons partners initiate CPSs include the belief that they help restore premorbid language skills despite the fact that they are not always successful at eliciting correct production (Booth & Perkins, 1999, Lock, et al., 2001).

Repetitive questioning by partners can constrain the opportunities for the person with aphasia to participate in the conversation, and limit their options in terms of sequentially relevant responses and topic development (Wilkinson, Bryan, Lock & Sage, 2010). For example, CA of pre-therapy conversations revealed sequences comprising the CP asking a question, the person with aphasia answering (or attempting to) and the partner asking another question (Wilkinson, Bryan, Lock, & Sage, 2010). In addition to this sequential pattern, the type of question produced by the partner in this study represented a further constraint. Not only did the questions make answers relevant in the next turn, but they tended to be framed as either “wh”-questions or “yes/no interrogatives” and therefore required either a specific piece of information (in response to a “wh”-question), or a ‘yes’ or ‘no’ (or equivalent). The person with aphasia responded minimally to these questions, although in other activities he displayed that he was able produce longer and fuller turns. Wilkinson, Bryan, Lock, & Sage, (2010: p.876) describe the partner as “constantly taking the initiating actions” while the person with aphasia is “passive and responsive”

(Wilkinson, Bryan, Lock, & Sage, 2010: p.876). When this questioning style was discussed the partner reported that she felt that asking questions facilitated her husband's participation.

1.6.2. Using CA to implement interaction-focused therapy

Therapy based on CA can result in individual or group therapy that targets particular behaviours (e.g. reducing/eliminating use of CPSs). Sometimes therapy is delivered to the partner alone and at other times to the couple. It typically involves discussion of the couple's behaviours that have been identified using CA. These discussions often incorporate more general information about conversational behaviours, based on CA findings. Therapy tends to include viewing the couple's own video data to illustrate discussion points and raise awareness of how they manage various features of their interactions. The behaviours that are typically targeted in interaction-focused therapy are those that tend to highlight the difficulties of the person with aphasia, limit their opportunities to use the language that they do have, or cause negative emotional responses from the person with aphasia. In *Supporting Partners of People with Aphasia in Relationships and Conversation (SPPARC)* (Lock, et al., 2001) three stages of therapy are suggested: 1) raising participants' awareness of generic conversational behaviours; 2) raising participants' awareness of their own conversational behaviours; and 3) discussion and practice of alternative behaviours. Some researchers incorporate interviews, for example, as contained in the *Conversation Analysis Profile for People with Aphasia (CAPPA)*: Whitworth, Perkins, & Lesser, 1997) to understand more of the participants' views and attitudes to their conversations.

Examples of interaction-focused therapy studies include one in which the two main aims were to facilitate the partner to: 1) initiate sequences with turns that were not "wh"-questions or yes/no interrogatives, and 2) to avoid following responses from the person with aphasia with further questions (Wilkinson, Bryan, Lock, & Sage, 2010). Through changing the behaviours of the partner in these ways, a supplementary aim was to enable the person with aphasia to contribute more to conversations by using the opportunities offered by different patterns of behaviour by the partner. In another single case study the target was to change the behaviour of the person with aphasia during word searches. He was encouraged to produce fillers during word searches to indicate that his turn was not complete, and his partner was

encouraged to ask explicitly whether or not he had finished his turn if she was unsure (Beeke, et al., 2011). In another study, the interaction-focused therapy addressed the difficulties that arose when the person with aphasia attempted to initiate a new topic. This was achieved by introducing behaviours to be used by the person with aphasia to alert to her partner to the fact that she was doing a topic-initiating turn, which should be oriented to as not contiguous with the previous topic (Wilkinson, et al., 2011).

1.6.3. Using CA to evaluate interaction-focused therapy

Studies that have used CA to motivate interaction-focused therapy have used a range of measures to evaluate the effectiveness of the therapy. For example, quantitative measures have been used to compare the percentage of turns occupied with repair activities and the length of repair sequences (Booth & Perkins, 1999). Other studies have focused on qualitative measures, such as changes to the methods used to initiate new topics (Wilkinson, et al., 2011). In some studies, qualitative and quantitative measures have been combined, for example to look at the ways in which one partner designed their turns so that there was less constraint on how the person with aphasia could respond (Wilkinson, Bryan, Lock, & Sage, 2010) together with quantifying the ways in which both parties constructed their turns. Interview data have also been used as a qualitative tool to evaluate the perception of participants in terms of how their conversations have changed following therapy (e.g. Wilkinson, Bryan, Lock, & Sage, 2010).

1.7. Qualitative and quantitative outcome measures

Following interaction-focused therapy, conversational data are collected and analysed for comparison with the pre-therapy data that informed therapy. For each participating couple, the phenomenon (or phenomena) that is analysed will vary according to the behaviour(s) that were targeted by the therapy. For example, if repair was the target behaviour, then that is the phenomenon that will be analysed for pre- and post-therapy comparison, as it is the behaviour that is hypothesised to change. Quantitative differences in repair sequences have been reported in the number of major turns spent on repair work which reduced from 78% to 29% in Booth and Perkins' (1999) data, while other-initiation of CPSs had disappeared post-therapy (Lock, et al., 2001). Other quantitative changes included a reduction in turns

comprising questions by the partner from 78% pre-therapy to 22% post-therapy, and the person with aphasia producing turns comprising at least one sentence or attempted sentence in 41% of turns pre-therapy, compared to 59% of turns post-therapy (Wilkinson, Bryan, Lock, & Sage, 2010). Other forms of quantitative measure are the MPC and MSC (Kagan, et al., 2004) described in section 1.1 (page 14).

Qualitative changes that have been reported post-therapy include evidence of repair sequences that represented genuine attempts to arrive at mutual understanding in order for the conversation to progress, rather than unnecessary and often unsuccessful demands for correct production by the partner (Booth & Perkins, 1999). In Lock, et al.'s (2001) post-therapy data, one example of an other-initiated other-repair comprised the partner correcting a grammatical error, however this was treated more as a joke and resulted in laughter by both participants. Other qualitative changes include sequences of talk post-therapy that were unlike those of the pre-therapy conversations, with the turns of the person with aphasia contributing to topic development post-therapy in a way that had not occurred during the pre-therapy conversations, due primarily to changes in the behaviour of the partner (Wilkinson, Bryan, Lock, & Sage, 2010).

1.8. The current study

The current study is designed to extend previous interaction-focused therapy studies in a number of ways, thereby helping couples to optimize their everyday conversations. It will do this by extending the use of beneficial adaptations, i.e. adaptations that the couple has evolved which appear to be facilitating non-problematic conversations, and by supporting both partners to stop using adaptations that are detrimental to their interactions. The study considers whether theoretical findings, such as adaptations, can be used therapeutically, i.e. whether adaptations that offer benefits to one couple could be adopted by other couples dealing with similar difficulties to benefit their interactions. Where it is appropriate to the therapy goal, the behaviours of both parties, i.e. the person with aphasia and the partner will be targeted. In most interaction-focused therapy studies that have been reported to date, the therapy has targeted the behaviours of the partner (e.g. Booth & Perkins, 1999; Lock, et al., 2001). However, in some instances, changes have been displayed by people with aphasia as a result of the changes made by the partners (e.g.

Wilkinson, Bryan, Lock, & Sage, 2010). In one case study, the behaviours of the person with aphasia were targeted directly by the interaction-focused therapy (Wilkinson, et al., 2011).

Interaction-focused therapy studies to date have primarily comprised single case studies that indicate that this form of therapy can produce positive changes in the conversations of some couples living with aphasia. However, case studies are limited methodologically, because they are tailored to the couple involved so that results may be associated with characteristics particular to that couple, and the way in which linguistic or cognitive skills manifest, making comparisons across couples difficult. There is also the unknown factor of what behaviours would have been displayed in any individual couple's pre-morbid talk-in-interaction and how these pre-morbid behaviours may influence interactions following stroke. Unlike previous research this study will use a case series design representing a midway point between a single case study and a group study (Lambon Ralph, Moriarty & Sage, 2002). This design will enable comparisons to be made both within and between couples. Although it is expected that the therapy will be modified to meet the specific individual needs of each participating couple, it will follow broadly the same format and the same measures will be applied before and after therapy.

To date, limited evidence exists regarding the interaction of aphasia, cognitive skills and response to therapy. It is hypothesised that impaired cognitive skills may have two effects. First, cognitive impairments may manifest in conversational behaviours, such as difficulty carrying out self-repairs due to an impaired ability to select an appropriate strategy to complete a repair or to shift from a strategy that is ineffective to one that is potentially more successful (e.g. Frankel, et al., 2007). The second proposed impact of impaired cognitive skills is difficulty learning and applying new skills. In one study, reduced cognitive flexibility was hypothesised to account for the limited effect of therapy designed to train people with aphasia to use augmentative communication as a compensatory strategy. In this study, 20 symbols were trained in three modalities (communication board, gesture and verbal) and the findings indicated that cognitive flexibility skills predicted whether or not participants would shift modalities after training (Purdy & Koch, 2006). Deficits in working memory have been proposed to impact on comprehension skills (Caspari, Parkinson, LaPointe, & Katz, 1998) which could hinder a person's capacity to learn during therapy. In one study, the scores on two specific cognitive assessments (the

RCPM: Raven, 1962; and the WCST: Grant & Berg, 1993) were correlated with time taken to achieve a pre-determined level of performance in therapy, and the ability to perform the trained functional task six months post-intervention (Hinckley, Patterson, & Carr, 2001). Similarly, a review of the literature relating to attention skills in people with aphasia, suggested a relationship between this specific cognitive skill and response to therapy (Murray, 1999). There is no evidence regarding the potential relationship between cognitive skills and response to interaction-focused therapy specifically, despite evidence of a relationship between aphasic difficulties and cognitive skills at a conversational level (Frankel, et al., 2007). Therefore this study will incorporate a range of cognitive assessments before and after therapy to investigate whether a possible relationship can begin to be identified.

The study used an interview format that was designed to elicit information about the couple's linguistic behaviours that could not be ascertained from the video-recorded conversations alone. The use of interviews to supplement video-recorded data, such as CA, is not new within aphasia research. For example, the CAPP (Whitworth, et al., 1997) has been used to supplement video-recording. The CAPP interview was not used in this study because although it elicits information about the conversational abilities of the person with aphasia, and enables comparison between the CA findings and what the couple reports, it focuses on the person with aphasia rather than the couples' interactional behaviours. Also, it does not go beyond conversational behaviours, for example to ask about practical or emotional consequences, or how the non-aphasic partner felt about their role in helping the partner with aphasia. It was felt, therefore, that a semi-structured interview that captured this information would be useful in understanding more about each couples' overall attitude to managing aphasia, and to shed light onto the experience of living with aphasia in ways that have not been reported previously. By interviewing participants at the baseline stage, one limitation of CA, i.e. the fact that it is an observational methodology (Hutchby & Wooffitt, 2008) was addressed. The interviews elicited information from participants regarding their own perception of their interactions and how, if at all, their roles had changed since the onset of one partner's aphasia. Additionally questions were asked regarding broader changes as a result of aphasia, including how the partners' role and responsibilities had changed as well as their emotional responses to aphasia. The interviews also provided an

opportunity for participants to raise issues of concern, that they may have wished to address in the therapy, but which may not have been identified as goals from the video-recordings alone (for example, as mentioned previously, if there was no opportunity for a behaviour to be displayed during the video-recordings). The semi-structured interviews were targeted primarily at the partners in this study, to gain insights into their experiences as partners of people with aphasia both in terms of conversational interactions and other aspects of their lives. The informal nature of the interviews meant that, for some participants, information was forthcoming regarding the beliefs, assumptions and attitudes that underpinned their behaviours and could be observed in the conversational data. The interviews that were carried out during the baseline data collection stage were video-recorded, then transcribed orthographically, prior to thematic analysis (Braun & Clarke, 2006), as described in Chapter 4. Thematic analysis was chosen as the tool for analysis of the interview data because it allows the researcher to identify themes that are raised by the interviewees, which may be unpredictable, (as opposed to being hypothesised a priori) (Braun & Clarke, 2006). TA is a methodology that can be applied to individual data, or to data from groups with similar experience(s), and was therefore deemed to be appropriate for the relatively small sample size in this study, and for grouping the participants into two groups. In this study, the expectation was that the interview data would shed light on the motivation behind the behaviours that were displayed in the video-recorded conversations and thereby inform the therapy planning stage. It was also recognised that the interviews could offer research findings that would be of interest in their own right in terms of the experience of living with aphasia. Some interviewing was carried out at the post-intervention stage, but this was related directly to the participants' experience of the interaction-focused therapy used in this study and is not formally reported in this thesis, beyond a small number of anecdotal comments that were made by some participants post-therapy, where these were considered relevant to the change(s), or lack of change, seen when the pre- and post-therapy conversation data were compared.

Finally, qualitative and quantitative measures will be used to identify change in the pre- and post-therapy data. Qualitatively, four pre- and four post-therapy conversations will be analysed according to the methodology of CA. The findings that emerge from this conversation analytic investigation of the data will drive quantitative analysis, using environments of possible occurrence (Schegloff, 1993).

Environments of possible occurrence are occasions within the interaction when a participant has the opportunity to do a particular type of action. For example, if a speaker does a self-initiation of repair, this represents an opportunity for the listener to either wait and allow the speaker to complete the repair (if they are able to do so) or to begin collaborating and, potentially, to produce an other-repair. To measure changes between pre- and post-therapy data, the behaviours of interest for each participating couple will be compared in respect of environments of possible occurrence where this is an appropriate measure (e.g. what a listener does when a speaker does a self-initiation of repair). While CA will provide the primary qualitative measures, additional qualitative data will be obtained from semi-structured interviews conducted pre and post-therapy (Booth & Perkins, 1999; Wilkinson, Bryan, Lock, & Sage, 2010).

In summary, research into interaction-focused therapy has been carried out over approximately ten years and some useful data have emerged, primarily from single case studies in terms of the potential benefits of this form of therapy to people with aphasia and their partners during their everyday conversational interactions. The current study is designed to explore this approach in greater detail by using a case series to compare outcomes across participants, including a maintenance data collection point to identify whether any changes are integrated into the participants' everyday conversations.

CHAPTER 2

METHODOLOGY

2.1. Study design

This study used a case series design which represents a midway point between a single case study and a group study (Lambon Ralph, et al., 2002). The case series design was selected because it enables comparisons to be made both within and between participating couples. In this way common features can be captured across what is effectively a set of individual case studies (Croot, Hodges, Xuereb, & Patterson, 2000). The case series design also accommodates the variable nature of aphasia, rather than necessitating homogeneity in terms of aphasia classification, as would be the case if a group design were used (Moses, Sheard, & Nickels, 2007). This gives the potential to identify patterns across the participants in terms of their presentation that may be relevant to the interaction-focused therapy and the study results. In this study, there were eight participating couples. In other studies the number of participants has ranged from five (Moses et al., 2007) to 21 (Lambon Ralph, 2002). This is important in interaction-focused aphasia therapy studies because aphasia manifests differently from person to person, different couples have different interaction styles, and couples develop different ways of adapting to aphasic difficulties. The study used an ABA design. In the baseline phase, a set of standard assessments was administered to all participants, and interview and conversation data were collected. The interaction-focused therapy followed, then a subset of the baseline data was collected to allow pre- versus post-therapy comparison. The set of baseline data is listed in Sections 2.3.1.1 to 2.3.2.2. An overview of the standard assessment data collected from each participating couple is described in Chapter 3, the analysis of the interview data is reported in Chapter 4, and the conversational data for each couple is described in Chapters 5 and 6.

2.2. Recruitment

2.2.1. Inclusion Criteria

Criteria for inclusion in the project were pre-determined as follows. The person with aphasia was required to be beyond the usual period of spontaneous recovery on entering the study (i.e. at least 6 months post-onset) to ensure that any differences between pre- and post-therapy data could not be ascribed to natural recovery. All participants were required to be medically stable with no severe cognitive impairments. Participants with aphasia needed to use spoken language as their primary means of communication and could not be receiving speech and language

therapy with any conversational or interactional component. (Only one participant with aphasia was receiving speech and language therapy through their local NHS provider during the study. This continued because the therapy was addressing linguistic impairments not interactional behaviours, did not involve his partner, and was not considered to represent a confounding variable.) Couples were required to be in personal relationships so could not, for example, comprise a person with aphasia and a professional carer. Both parties were required to be competent speakers of English pre-morbidly.

2.2.2. Referrals

Eight couples were recruited via referrals from local SLTs and departmental colleagues between May 2010 and February 2012, and successfully completed all phases of the study. Four couples had participated in other research studies and expressed interest in further involvement in research, two couples were unsuitable for colleagues' projects, but met the inclusion criteria for this project, and two couples were newly recruited. A ninth couple began baseline data collection, but were excluded after five weeks because they failed to video-record conversations despite several verbal and written training episodes and repeated explanations as to what was required and why.

2.2.3. Screening Visit

After referral, potential participants were visited at home by the author and one supervisor for an information sharing and screening visit. The details of the study were described, and participants were told what would be involved (i.e. assessments, video-recording conversations, and therapy to address conversational behaviours) and how long their involvement would continue. Information was provided in written form, with one version for partners and one aphasia-friendly version designed to be accessible for people with aphasia (see Appendices 1 and 2). If no recent data were available regarding language and cognitive skills, the BNT (Kaplan, et al., 1983), Cookie Theft picture description (from the BDAE: Goodglass, et al., 2001), and the Rey Complex Figure (RCF: Meyers & Meyers, 1995) were administered to confirm the diagnosis of aphasia. At the end of the screening visit, if the couple indicated an interest in taking part, the researchers asked them to consider carefully the information that had been discussed, and advised that the

researcher would telephone them one week later to get their final decision. The information sheets were left for the couple to remind themselves of what had been discussed. If the information collected at the screening visit indicated the couple were not suitable, they were told this at the end of the visit. Sixteen couples were seen at this stage, of whom two declined to take part. Of the remaining 14 couples, two were told that they were not suitable because the person with aphasia did not use spoken language as his/her primary means of communication, three were excluded due to co-occurring communication and/or cognitive impairments and one because their relationship was that of patient/carer.

2.2.4. Ethics

Ethical approval for the project was obtained from the NHS North West Research Ethics Committee, using the online ethics application system (IRAS) to gain ethical approval and Research and Development governance. The application was signed off internally by the Faculty of Medical and Human Sciences Research Office. Minor changes were requested by the Ethics Committee and these were made prior to commencing recruitment. Specific ethical issues are associated with research involving people with aphasia because this disorder may affect comprehension. It is therefore important that participants fully understand the purpose of the study and their involvement in it so that they are able to give informed consent. This issue was addressed by the research team, all of whom are SLTs familiar with producing materials that are accessible to people with aphasia. For this study two versions of the Information Sheet were produced, one for the partner (see Appendix 1) and one aphasia-friendly version, i.e. large font, high ratio of white space to text, graphics (taken from the Pictographic Communication Resource Binder: Enhancing Communicative Access (Kagan, Winckel & Shumway, 1996) (see Appendix 2). Additionally, all the information was discussed during the screening visits and each couple was given a week after the visit to decide whether or not to participate. By asking people to take a week to consider their participation, the researchers avoided pressurising people to sign up during the initial visit. Once couples had decided to participate, they were required to sign Consent Forms, versions of which were also produced in an aphasia-friendly format (see Appendices 3 and 4) before beginning data collection.

Another ethical issue is participant confidentiality, which for this study, included the collection, storage, and use of data, particularly the video-recordings. All the data were anonymised, with hard copies of documentation stored in locked filing cabinets in locked offices and soft copies stored on password protected, encrypted computers. The University of Manchester has a policy of storing all data for five years from the last publication from the study, or ten years, whichever is the greater. Approval for this was included in the approval for the study from the NHS North West Research Ethics Committee.

2.3. Measures

Five forms of baseline data were collected. Language assessments (see Section 2.3.1.1) were administered to participants with aphasia to identify linguistic profiles, strengths and weaknesses, and any strategies that participants used, (e.g. circumlocution). Cognitive assessments (see Section 2.3.1.2) were administered to identify difficulties with tasks such as problem solving or attention. Because cognitive tests are administered verbally, the performance of people with aphasia may be affected by their language deficits. However, because there is evidence of a relationship between cognitive skills and conversational abilities of people with aphasia (e.g. Frankel, et al., 2007) the administration of cognitive tests was warranted. To gain insights into how each person perceived the impact of aphasia on their everyday life, the self-report Disability Questionnaire from the Comprehensive Aphasia Test (CAT: Swinburn, Porter, & Howard, 2005) was administered to participants with aphasia and their partners. This assessment is designed for people with aphasia, but was administered to both partners in this study to explore each person's perception about the sense of disability experienced by the partner with aphasia, and because both partners were actively involved in the interaction-focused therapy. More information regarding the CAT-DQ (Swinburn, et al., 2005) is given in Section 2.3.1.3. In addition to these standard assessments, a semi-structured interview was conducted with each participant to find out how they perceived the impact of aphasia on their conversations, and what, if anything, they were aware of doing differently within their conversations and in other aspects of their everyday lives (see Appendix 5). The method of collection and analysis of the interview data is outlined in section 2.3.1.4, and reported in full in Chapter 4. The fifth set of data

comprised video-recorded conversations: details regarding collection and analysis of conversation data are given in Section 2.3.5.

One participant (Patrick) completed supplementary assessments because his scores placed him on or close to the normal cut off for the standard set of assessments despite his language difficulties being evident during face-to-face conversation. The additional tests were the Graded Naming Test (McKenna & Warrington, 1980), The Trail Making Test (a subset of the Halstead-Reitan Battery: Reitan & Wolfson, 1985) and semantic and phonemic fluency tests. The immediate post-therapy data collection stage began the week after therapy ended and the maintenance data were collected three months later. The data sets that were collected post-therapy are listed in Section 2.3.2.

2.3.1. Baseline data collection

The baseline data collection took place at participants' homes over 4 to 6 sessions, each lasting between 1.5 and 2 hours, depending how quickly participants were able to complete the tasks and how quickly they became fatigued. A discussion of the selection of assessments for this study appears in Chapter 7, Section 7.1.2.

2.3.1.1. Language assessments

2.3.1.1.1. *Boston Diagnostic Aphasia Examination (BDAE) – Short Form* (Goodglass, et al., 2001). This test assesses expressive and receptive language in spoken and written modalities and provides an overview of the type and severity of aphasia.

2.3.1.1.2. *The Boston Naming Test (BNT)* (Kaplan, et al., 1983) contains 60 black and white line drawings. Scripted semantic and phonemic cues are given (e.g. "a piece of furniture" and "/bɛ/" for "bed") when participants are unable to name within 10 seconds. As well as assessing the ability to name nouns, it identifies beneficial cues and types of errors (e.g. semantic, phonological, perseverative, no response, unrelated etc.).

2.3.1.1.3. *Verbs Only Subtest of the Object Action Naming Battery (OANB: Druks & Masterson, 2000)*. This subtest contains 100 black and white line drawings representing actions. Phonemic and semantic cues are provided when participants are unable to name the action within 10 seconds. This subtest of the

OANB assesses the ability to name verbs and, like the BNT, identifies beneficial cues.

2.3.1.1.4. *PALPA 9 (Kay, Lesser, & Coltheart, 1992):* single word repetition.

This test comprises 80 words matched for imageability and frequency (e.g. high imageability/high frequency such as “church”, and low imageability/low frequency such as “deed”). It assesses the ability to repeat spoken words and shows differential performance between more or less frequent and more or less imageable words.

2.3.1.1.5. *PALPA 31 (Kay, et al., 1992):* single word reading. This test comprises the same 80 words as the PALPA 9. It assesses ability to read single words aloud. As with the PALPA 9, it differentiates between more or less frequent and more or less imageable words.

2.3.1.1.6. The three picture version of *Pyramids and Palm Trees (Howard & Patterson, 1992)* assesses semantic knowledge. Participants are required to match a stimulus picture to one of two picture choices on the basis of semantic relatedness. For example, when shown a picture of a pyramid, the participant is required to match that to either a palm tree or a fir tree. The test assesses semantic integrity, using a non-verbal modality.

2.3.1.1.7. The Sentence Production subtest of the *Verb and Sentence Test (VAST: Bastiaanse, Edwards, & Rispens, 2002)* requires participants to produce 20 sentences to describe a set of black and white line drawings depicting a verb. It assesses ability to produce verbs within a sentence context and provides information about syntax.

2.3.1.1.8. *The Cinderella Story*, from the *Quantitative Production Analysis (Berndt, Wayland, Rochon, Saffran, & Schwartz, 2000)* comprises a set of 14 black and white drawings depicting the Cinderella story. Participants are given the pictures to view for as long as they wish before beginning their narrative. When ready to begin narrating, the pictures are removed. This study uses this task to assess lexical efficiency and use of grammatical markers.

2.3.1.2. Cognitive assessments

2.3.1.2.1. *Rey Complex Figure (RCF: Meyers & Meyers, 1995):* Participants are required to copy a complex line drawing, complete a distracter activity and five minutes later draw the figure again from memory. After 25 minutes of further

distractions, they are asked to re-draw the figure again. This task provides information about visuo-spatial awareness and visual memory.

2.3.1.2.2. Two subtests from the *Test of Everyday Attention (TEA: Robertson, Ward, Ridgeway, & Nimmo-Smith, 1994)*: ‘Elevator counting’ and ‘elevator counting with distraction’. In this task participants are asked to count a series of tones, played at random time intervals. In the subtest 'with distractions', they are asked to count the number of low-pitched tones played at random time intervals while disregarding the interspersed high-pitched tones. These two subtests assess auditory attention and the ability to suppress irrelevant stimuli.

2.3.1.2.3. The *Wisconsin Card Sort Task (WCST: Grant & Berg, 1993)* consists of 64 cards with stimuli that vary in colour (red, yellow, blue, green), form (circle, triangle, square, cross) and number (one, two three, four). Four “reference” cards are laid out and participants are given 64 cards and asked to work out a rule by which these cards can be matched to the reference cards. Feedback is limited to ‘right’ or ‘wrong’ only. Once a participant has correctly matched 10 consecutive cards, the matching rule is changed. Performance is measured by the number of categories completed correctly (n=6). This task measures problem solving skills and flexibility.

2.3.1.2.4. *Ravens Coloured Progressive Matrices (RCPM: Raven, 1962)*. Participants are required to select one of four possible options to fit a blank window within a matrix. Selection of the correct option becomes progressively more difficult as the participant works through the set of 36 matrices. This task measures abstract reasoning.

2.3.1.2.5. *Brixton Spatial Anticipation (Burgess & Shallice, 1997)*. This test comprises 55 sets of 10 circles, one of which is coloured blue. Participants are required to infer the rules that determine which one of the 10 circles is coloured blue, and then predict which circle will be blue on the next set of circles that they are shown. This task is a visuospatial task that assesses concept formation.

2.3.1.3. Self Report

Each couple completed the CAT-DQ (Swinburn, et al., 2005). The Disability Profile is one component of the CAT (Swinburn, et al., 2005) designed to be administered to people with aphasia to assess how they perceive their disability. For the purposes of this study, the CAT-DQ (Swinburn, et al., 2005) was administered to

the couple together in the same room. The therapist sat with the person with aphasia so that she could see which response the person indicated, and the partner sat in the same room, completing the questionnaire at the same time. In this way, both the person with aphasia and the partner were able to ask questions and make comments as the test was administered. The partner was asked to complete the questionnaire, according to how they be believed their partner with aphasia experienced their disability, i.e. not the partner's own view, but their assumption of their aphasic partner's experience.

2.3.1.4. Interview

The interview was the only time at which data were collected from each participant separately. It was decided to conduct the interview with each person on their own, as it was felt that this would increase the likelihood of partners responding in a candid way, rather than moderating their responses because their partner was present. The questions that were asked of each partner within the couple differed, with more questions addressed to partners. The semi-structured interview was based on the set of questions given in Appendix 5. These questions were designed to identify a number of factors, including: any strategies that participants were aware of using themselves or were aware that their partner used; whether such behaviours were deemed helpful or otherwise in their conversations; and whether partners perceived themselves to have a particular role with regard to the communication of the person with aphasia.

2.3.1.5. Video-recorded conversations

Each couple made eight video-recordings of themselves talking together at home. They were trained by the researcher to use the camcorder and were given written instructions as a reminder. The camcorder was left with each couple throughout the baseline data collection phase so that they were able to make recordings when the researcher was not present. Each couple was instructed to video-record eight conversations, each one lasting at least 10 minutes. They were asked to record two conversations per week over 4 weeks, but this was flexible. They were told to talk as naturally as possible about any topics and not to worry if the recordings included periods of silence. They were also asked to ensure that both participants' faces and

upper bodies were in shot, so that facial expressions and gestural information would be recorded.

2.3.2. Post-therapy data collection

There were two data collection points post-therapy. The first began one week after completion of therapy, and was for baseline and post-therapy comparison purposes. The second, three months after therapy ended, enabled the researchers to identify whether changes seen immediately post-therapy were maintained in the longer term.

2.3.2.1. *Immediate post-therapy*

One week after completion of therapy, a subset of the pre-therapy assessments comprising the BDAE (Goodglass, et al., 2001), BNT (Kaplan, et al., 1983), Cinderella narrative, RCPM (Raven, 1962) and CAT-DP (Swinburn, et al., 2005) was re-administered. Participants were beyond the spontaneous recovery when they entered the study and there was no impairment-focused therapy so no changes were expected on the linguistic and cognitive assessments. However, it was expected that the participant's perceptions of disability *could* change when the CAT-DQ (Swinburn, et al., 2005) was re-administered, because by optimising conversational interactions it was possible that there would be a reduced focus on the difficulties of the participants with aphasia. In addition to re-administering these assessments, each couple was interviewed using the "post-therapy" questions in Appendix 5. These questions were designed to provide participants with the opportunity to express their opinions about their experience of the interaction-focused therapy. These data could be used to inform future interaction-focused therapy.

2.3.2.2. *Maintenance data – three months post-therapy*

Three months post-completion of therapy a final set of data was collected. At this point each couple was required to video-record a further set of eight conversations. No other data were collected at this point. As with the baseline and immediate post-therapy conversations, sections of this final set of conversations were selected for transcription and analysis. The data and transcripts were analysed specifically to identify whether any changes that had been evident in the immediate post-therapy data were maintained over the longer term to become integrated into each couples'

everyday conversations. It is unusual in interaction-focused therapy studies to collect a second set of post-therapy data some months after the therapy is completed.

However, it is important to measure whether changes are maintained and incorporated into everyday conversations as this is, ultimately, the point of this therapy. If changes are seen in the immediate post-therapy phase, but are not evident some months later, then this could imply that the changes were either not sufficiently practised to have become habituated by the participants, or were not perceived as sufficiently beneficial to be worthwhile maintaining, and this could be revealed in the post-therapy interview data.

2.4. Analysis - Conversation Data

2.4.1. Data selection

Excerpts of the 24 conversations (eight baseline, eight immediately post-therapy and eight maintenance) that were video-recorded by each couple were selected for CA transcription (Hutchby & Wooffitt, 2008) and detailed analysis. Whenever samples are selected for transcription there is the possibility for “selection bias”, i.e. the researcher consciously or unconsciously selecting samples of the data that best demonstrate the desired outcomes. To avoid this potential problem, the following criteria for data selection were set in advance. Excerpts from 12 (i.e. four baseline, four post-therapy and four maintenance) of the 24 conversations were transcribed, each of which was at least five minutes long. Thus, a total of at least 60 minutes from the complete set of each couple’s video-recorded conversations were transcribed (i.e. 20 minutes from the baseline, 20 from the immediate post-therapy and 20 from the maintenance post-therapy data sets). These excerpts were selected from the 2nd, 4th, 6th and 8th recording of each data set. Transcribed samples began between four and seven minutes from the beginning of the recording, depending on where natural breaks (e.g. topic changes or pauses occurred), and ended at least five minutes later, again where natural breaks occurred. The rationale for these criteria was that the first recording, when participants are typically most conscious of talking in front of the video camera and therefore produce the least naturalistic data (Goodwin, 1981), was never used. Also, the first four to seven minutes of each conversation that was selected for transcription, were disregarded, as, again speakers tend to be more conscious of the video-recording and less engaged in conversations when they begin recording. One exception to these criteria was made when a

recording was not considered to be representative of a typical conversational interaction, because it was made while the couple were completing the participant with aphasia's speech and language therapy homework exercises. An extra (third) conversation had been recorded during that week, so that was used instead.

2.4.2. Data transcription

CA transcription is a method of analysing conversations and is concerned with their interactive nature, i.e. how speakers design their turns to suit their listener(s), and how listeners respond to what the previous speaker has said. It is therefore a suitable methodology for investigating the impact of aphasia on the interactive behaviours of speakers during a conversation. As well as transcribing the words (or part words) that are spoken, CA transcription uses symbols to represent laughter, intonation patterns (e.g. changes in pitch and stress, questioning intonation and prolonged speech sounds), volume and rate of speech, overlapping speech, and gestures. The final transcription provides a detailed representation of both what was said, and how it was said. (CA transcription symbols are provided in Appendix 6). Transcription was carried out by trained undergraduate speech and language therapy students, a specialist CA transcription service, and the author. All transcripts were quality checked by the author for accuracy.

2.4.3. Data analysis

Chapter 1 provides background information regarding CA findings from analysis of conversation data of people with aphasia and their partners, including patterns of behaviour that differ from conversations where neither party has a communication disorder. These findings, in part, informed the analysis of the conversational data collected for this study to the extent that behaviours seen in this data set could be analysed in the light of behavioural patterns described in previous studies. In some instances, these behaviours were also identified as potential targets for therapy.

Once data had been transcribed and the transcriptions had been quality checked, they were analysed. Because the purpose of analysis was to identify potential therapy targets, the first step was to identify points where difficulties (or potential difficulties) occurred and how these were managed by the participants. Difficulties manifested in different ways, including overt problems (e.g. word finding difficulties); evidence of frustration (which could be verbal e.g. "it's stupid" or "I

can't", gestural e.g. banging a hand on the arm of the chair, or intonational e.g. raised volume and/or pitch). When a behaviour was noticed, the sequence around it was analysed. This was done by tracing backwards from the difficulty to discover the sequence of behaviour(s) that led to it, and then looking forwards to understand how it was managed and resolved, or, if it was not resolved, what may have hindered its resolution.

For example, in conversations involving people with aphasia, word finding difficulties often cause breakdowns that result in one or other speaker initiating repair (see Section 1.4.1, page 27). Word finding difficulties are most likely to be successfully repaired when the speakers collaborate in the repair activity, for example by the partner guessing the target word, paraphrasing what has been said for the speaker with aphasia to confirm or reject, or the speaker with aphasia redoing the problematic turn, using a strategy such as circumlocution to avoid the problematic word, or augmenting their verbal output with gesture or writing. Repair activity may be prolonged, for example, if the partner withholds a target word, or initiates a CPS. At times, repair may be unsuccessful and abandoned, for example if the person with aphasia indicates that he does not wish to pursue the repair, or efforts to resolve the difficulty fail. In this study the analysis revealed different behavioural patterns for different couples. There was evidence that some couples generally collaborated successfully, while in others, partners tended to withhold targets. (Full details are given in Chapters 4 and 5.)

Conversational behaviours that were analysed in this study therefore included: turn taking (e.g. whether turn taking occurred at Transition Relevant Places or whether there was noticeable overlapping talk, or gaps/pauses, and whether turns were minimal, incomplete or full); turn design (e.g. whether partners of people with comprehension difficulties designed their turns to support their partner's comprehension); repair (e.g. whether repairs were self- or other-initiated, self- or other-completed, or abandoned); topic initiation (e.g. who initiated topics, whether difficulties arose around topic initiation); eye gaze (e.g. how it was used to stall or mobilise help); pedagogic behaviours (e.g. test questions, monitoring or correcting the person with aphasia's output); questioning behaviours (e.g. whether direct questions tended to lead to difficulties for people with aphasia).

Each couple's data revealed different patterns that were identified as potential therapy targets. Any behaviours that were considered potential therapy targets were discussed with the couple prior to therapy. This was important, not only because it was necessary for the participants to agree with the researchers' analysis of what was problematic, but because, in some instances, behaviours that were displayed in the data were reported to be unrepresentative of the couples' typical interactions, or behaviours perceived as beneficial by the researchers were not experienced positively by the participants. This potential for differences to arise between data collected during interviews and data recorded for CA purposes has been acknowledged in the CA literature (Heritage 1984b). It is accounted for on the basis that the two types of data are examining different things and that conversational behaviours may not be conducive for discussion via interviews because participants typically do not have sufficient awareness of their own behaviours to be able to discuss them, while video-recording and CA capture the behaviours directly (Heritage (1984b). Additionally, video-recorded conversations capture a limited point in time whereas interviews are an opportunity for participants to discuss behaviours more generally and to talk about their feelings about their behaviours. For example, in this study one couple displayed evidence of successful collaboration when the person with aphasia had word finding difficulties. However, during the interview and other discussions, both the person with aphasia and their partner reported that the person with aphasia tended to become frustrated if her partner collaborated too quickly, because she preferred to be allowed enough time to self-repair, which the partner experienced as uncomfortable.

2.5. Interaction-focused therapy

In this section, the process of interaction-focused therapy is described, along with the techniques that were used in this study. It should be noted that the terminology that is used in this section has not been well defined within interaction-focused therapy to date as this therapy approach is in the early stage of development. However, the techniques that were used are consistent with those previously described within interaction-focused therapy studies. More work is needed to properly define these terms so that they can be replicated and operationalised in the future. For the purpose of this thesis, descriptions are provided of the techniques that were used during the interaction-focused therapy stage of this study. The therapy

phase began between three and four weeks after the baseline data collection, to allow time for transcription, analysis and formulation of potential therapy targets. The quantity of therapy varied, with each couple receiving between six and ten weekly sessions, lasting between one and two hours, based on the therapist's judgement in terms of what was needed, up to a maximum of ten sessions. The number of therapy sessions varied depending on what was targeted and how much support and/or practice each couple required. Sheila and Amanda had six sessions. This was considered adequate because only one behaviour was targeted and by the sixth session, it was evident that the behaviour had been well-practised and was being used effectively. Eleanor and Miranda had nine sessions, which included a break of several weeks while they were away on holiday. The couple moved away from the area during their participation in the project and this meant it was not possible to complete more sessions, although more practice with one aspect of the therapy may have been beneficial. Three couples, Betty and Tina, David and Bonnie and Kenneth and Cathy, had eight sessions. For Betty and Tina, eight sessions was considered sufficient for the couple to have practised the recommended behaviour and to have integrated this into their interactions. David and Bonnie, and Kenneth and Cathy completed eight sessions and it was apparent that targeted behaviours were not amenable to change so further sessions addressing the same behaviours were considered inappropriate. Brian and Ingrid had ten sessions, primarily because Ingrid displayed resistance to change initially and it was considered that additional sessions to embed the new behaviour were justified. Also, other behaviours were targeted although these are not reported in this thesis as they did not result in change. There were two main reasons that Edward and Maureen had ten sessions. Firstly, a number of behaviours were proposed as targets for therapy, and each was resisted and dismissed (see Section 5.1.5 for details (page 149)). Also, Edward and Maureen's therapy was slightly disjointed due to a long holiday after the first session, and Edward being hospitalised after the fourth session. Finally, Patrick and Diane had ten sessions because the first eight sessions targeted impairment level difficulties that impacted the couple's interactions, before their interactional behaviours were addressed in sessions nine and ten.

Therapy was personalised according to the type and severity of aphasia, the behaviours that were revealed by CA and considered to be beneficial or problematic, and the difficulties that each couple reported during interviews. Detailed descriptions

of each couple's therapy are given in Chapters 5 and 6, but the broad therapy principles were as follows. Time was spent with each couple to agree goals for therapy. This involved discussing the CA findings from the video-recorded conversations, using excerpts of the videos to illustrate behaviours, and reflecting on whether these behaviours were experienced as helpful or problematic. This was achieved by the clinician pointing out sequences of behaviours, e.g. repairs and what followed so that the couple could understand how particular behaviours resulted in more and less successful outcomes. Examples of behaviours that were considered helpful included: partners designing their turns in short chunks, repeating key words and phrases and leaving pauses to assist their partners' comprehension; partners guessing target words when the person with aphasia displayed word finding difficulties; people with aphasia initiating self-repair when they perceived that their partner had not followed them, and using gesture and environmental cues to augment their talk. Examples of behaviours that were identified as potentially unhelpful included: use of open class repairs or withholding guesses when the person with aphasia engaged in word searches; partners using pedagogic behaviours (such as asking test questions, and producing incomplete turns for the person with aphasia to complete); partners producing noticeably longer turns than speakers with aphasia who then lost the thread of what they wanted to say themselves, and partners beginning to collaborate in word finding problems before the person with aphasia had exhausted their word search. Throughout the therapy stage, from agreeing goals to evaluating progress, the clinician worked collaboratively with the couple to maximise their input in the therapy. This was done by asking participants to express their views about the CA findings, which meant that, at times, participants reported that behaviours noted on the videos were *not* typical of their usual conversations, but were a function of being recorded, or that what appeared beneficial, was experienced differently. For example, the research team initially analysed a partner collaborating quickly when the speaker with aphasia experienced word finding difficulties, as beneficial, but some couples expressed the view that, in fact, this prevented the person with aphasia from having the opportunity to try to self-repair.

Once therapy targets had been agreed, some general education regarding CA findings from typical (i.e. non communication disordered) interactions in respect of the target behaviour(s) was provided. This was based on materials from SPPARC (Lock, et al., 2001) with individualised information sheets produced for couples

regarding turn taking patterns, topic initiation, and repair (specifically why it occurs, who initiates/completes it, and the different types of repair that may be used). Next, excerpts from the couple's videos were reviewed and the couple reflected on the targeted conversational behaviours that were displayed. Reflection was led by the clinician asking questions such as "How well do you think what you did there worked, when (person with aphasia's name) couldn't find the word, he/she wanted?", "When (partner name) did that (e.g. guessed the word/asked you to say it again), was that helpful?" When participants were reluctant to express views, the clinician prompted them with comments such as "in other studies, some people say that xx is helpful, but others say they find it distracting" (or similar). The clinician also prompted discussion about how the behaviours seen on the video recordings resembled or differed from the typical behaviours they had discussed earlier. There was variability in the degree to which participants were able to contribute to these discussion and people with aphasia, in particular, needed to be given extra time and asked specifically what they thought, for example, with yes/no questions (e.g. "Is it helpful when (partner's name) does X?" rather than open questions (e.g. "What do you think (partner's name) does X?". At this stage, time was spent analysing helpful behaviours, to raise each participant's awareness of things that worked for them in their conversations. At the same time, the therapist encouraged the couple to consider alternative behaviours that could be tried in place of behaviours that appeared unhelpful. This was important in making couples aware that they had options to try when their conversations were problematic.

Alternative behaviours were trialled with the therapist. This involved watching video excerpts, but stopping them at the point when a difficulty arose. The couple was asked to think about what they *could* do in that situation and prompted by the therapist if they were unable to suggest an action, before watching the remaining video excerpt and reflecting on what they had done. Again this reflection was led by the therapist asking whether the couple felt the behaviours they had seen on the video were helpful and their beliefs about why a behaviour worked (or did not). Next, the therapist modelled alternative behaviours that the couple could try in a short conversation with one of the participants. The therapist recommended ideas and helped shape the couples' own suggestions.

Once alternative behaviours were agreed, the couple practised these in role plays with the therapist, or by speaking together in short (i.e. approximately five minute)

therapy conversations. Some new behaviours were initially practised in an exaggerated manner which was normalised as the behaviour became more familiar.. After each practice role play or therapy conversation, couples were encouraged to reflect on the behaviour they were practising, with the therapist asking their views about how the behaviour had been realised in the conversation, and what effect(s) this had had.

Each therapy session began with some rapport-building social conversation. After this, the clinician asked about the couple's home practice in terms of what had gone well, and what they felt had been difficult. This was talked about, and where appropriate, education about aphasia/behavioural change was given, or a discussion was facilitated by the therapist to enable the couple to resolve concerns. Behaviours were then practiced in short therapy conversations, with the therapist providing online feedback and facilitating reflection until the therapist judged that the behaviour had been practiced sufficiently to be integrated into the couples' everyday conversations. This judgement was based on couples' comments about their home practice and behaviours observed during non-therapy conversations, when the couples had not been told to practice a particular behaviour (e.g. during the first few minutes of a session when all three were engaged in social conversation).

Handouts were provided where appropriate, some taken from the SPPARC (Lock, et al., 2001) others created specifically for individual couples. Home practice was encouraged: each week couples were asked to have at least two practice conversations, lasting approximately 10 minutes during which they focused specifically on practising the target behaviour. They were asked to make notes about these conversations to discuss at the next session, and were given charts to fill in to remind them of what they should practice and to prompt their notes/observations. Occasionally a camcorder was left for the couple to record their practice sessions. The final therapy session consisted of a general review of the target behaviours, with individualised summary handouts provided to each couple.

2.6. Evaluation of interaction-focused therapy

One week after the final therapy session, the immediate post-therapy data collection began. The methods of data collection at this stage are described in Section 2.3.2.1. The eight conversations that were video recorded at this immediate post-therapy data collection point were treated according to the same protocol as

baseline conversations, with a minimum of five minutes from the second, fourth, sixth and eighth recordings selected for transcription and analysis. However, while these transcribed excerpts represented the primary focus of analysis, *all* of the eight video-recorded data from both the post-therapy maintenance collection points were reviewed and the behaviour(s) of interest was analysed across the complete data sets for planning and evaluating the therapy.

The area where change was expected to be found was at the level of the video recorded conversations. Specifically, it was expected that there would be evidence of change in the targeted behaviours, although the nature of that change would vary. To investigate this, sections of the post-therapy data were transcribed and analysed, according to the same criteria as the baseline data (see Section 2.4.2, page 52). Because the interaction-focused therapy had targeted specific behaviours for each couple, these were the focus of the initial analysis. Therefore the analysis involved identifying points in the conversations where the potential for change existed. For example, if a target during therapy had been the partner's topic initiating behaviour every instance of this was identified in the baseline and post-therapy data. Then each instance was analysed in terms of what the partner did, and whether there were differences between what the partner did in the baseline versus the post-therapy conversations. This involved tracking back to ascertain what led to the topic initiation, what the partner did to initiate the new topic, and how the sequence unfolded immediately after the new topic had been introduced. In this way, the analysis focused initially on qualitative changes, such as behaviours around topic initiation, and whether any differences, however subtle, were evident.

Quantification of behaviours is problematic in CA. Because conversations and conversational data are inherently variable, it is not straightforward to use measures such as frequency of occurrence as evidence of change. Comparing the number of occurrences of a behaviour before therapy with the number of occurrences post-therapy may, superficially, suggest a difference. However, one conversation may contain more or fewer opportunities for a behaviour compared to another of the same duration. Continuing with topic initiation as the example, a couple may talk about one topic throughout one ten-minute conversation, but may change topics several times over a different ten-minute period. One method that has been used successfully in a previous study of aphasia was to compare the proportion of major turns occupied by repair activities across different conversations (Perkins, Crisp, & Walshaw,

1999). Another method that helps to overcome the problem of quantifying changes in variable data that has not been used in aphasia related studies, is to identify 'environments of possible occurrence' (Schegloff, 1993) and use the number of these environments in baseline versus post-therapy data as the denominator, against which the number of times different behaviours occur can be calculated as a percentage or proportion. Identifying how many opportunities exist within a particular conversation for a behaviour to be displayed and how many times the behaviour is actually displayed and then calculating the actual behaviours as a percentage or proportion of the opportunities is a step forward for measurement of therapy outcome because it measures whether or not participants choose to use a target behaviour when it is sequentially relevant. Applying this measure to behaviours in baseline and post-therapy conversations, may mean it is possible to determine whether participants behave according to the therapy when the opportunity to do so arises. This process was applied to the data sets in this study, to enable both qualitative and quantitative changes to be identified and reported.

Chapter 4 reports the four couples who displayed evidence of change post-therapy. It includes the CA finding of their video-recorded conversation data and details the individualised therapies that were designed and implemented for each couple. Chapter 5 reports the remaining four couples who did not display evidence of any systematic change in the post-therapy data. The question of why some couples change in response to this therapy, and some couples do not, will be picked up in the Discussion.

CHAPTER 3

BACKGROUND TO PARTICIPANTS

This chapter provides background information (i.e., not related to the primary focus of this thesis of conversations between people with aphasia and their partners) regarding the eight couples who participated in this study. The information is set out in sections comprising social and medical history, language assessment results, cognitive assessment results, and self-reported disability profiles. The findings from the thematic analysis of the interview data are reported in Chapter 4, and the CA findings are included in Chapters 5 and 6, with descriptions of each couples' interaction-focused therapy and the outcomes of that therapy.

3.1. Medical and social histories

Participants with aphasia ranged in age from 48 (Kenneth) to 80 (Brian), with a mean age of 64.5 (SD 10.1.6). The time post onset ranged from 11 to 180 months at the time of entering the study (mean 48 months). Of the eight couples, six were husband and wife or long term partners, one couple comprised mother and daughter, and one was a long term friendship of approximately 30 years. Three of the participants with aphasia had retired prior to their strokes, and five retired due to their strokes. All participants were right handed.

All eight partners of the people with aphasia in this case series were female and ranged in age from 42 to 81 (mean 55.6 SD 12.8). Three partners were retired, one from a managerial role in customer services, one had been a secretary and one from an academic post. Four partners worked, one worked full-time in accountancy, and three had part-time jobs as a teaching assistant, administrative position and shop assistant. One partner was full-time mother and housewife. Table 3.1 shows the biographical and social background for the participant couples in this study

	Edward	Brian	Betty	Sheila	Patrick	Eleanor	Kenneth	David
Age on entering study	71	80	60	69	56	71	48	61
Months post onset	18	11	48	180	13	12	48	54
Years in education	11	11	12	12	14	20	12	12
Partner	Wife	Wife	Friend	Daughter	Wife	Partner	Wife	Wife
Working	Retired pre stroke	Retired pre stroke	Retired due to stroke	Retired due to stroke	Retired due to stroke	Retired pre stroke	Retired due to stroke	Retired due to stroke
Job / Industry	Building	Motor	Office management	Secretarial	Local Gov't Finance	Academia	Oil	Building
Handedness	Right	Right	Right	Right	Right	Right	Right	Right
Partner age on entering study	56	81	42	42	49	63	47	62
Partner years in education	12	12	12	14	12	20	12	12
Partner Working	Customer Services (retired)	Secretary (retired)	Housewife	Teaching Assistant	Shop Assistant (part-time)	Academia (retired)	Accountancy	Admin (part-time)

Table 3.1: Biographical History

3.2. Language assessment data

Details of the language assessments that were administered are given in Chapter 2, Section 2.3.1.1 (pages 47-48). The results of these assessments across the case series show that participants presented with a range of aphasia types and severities, comprising two with Wernicke's aphasia (Edward and David), two with Broca's aphasia (Kenneth and Patrick), two with unclassified fluent aphasia (Betty and Brian) and two with anomic aphasia (Sheila and Eleanor). (See Chapters 4 and 5 for BDAE (Goodglass, et al., 2001) profiles). At the single word level participants ranged in severity on word retrieval tasks. Picture naming skills (based on the BNT: Kaplan, et al., 1983) ranged from the most impaired at 5/60 (David) to the least impaired at 52/60 (Patrick). Repetition (PALPA 9: Kay, et al., 1992) scores ranged from 43/80 (Edward) to unimpaired (Eleanor) at 80/80. Five participants (Edward, Brian, Sheila, Kenneth, and David) presented with scores suggestive of mild semantic impairment (47/52 and 48/52 on the 3-picture version of the Pyramids and Palm Trees Test (Howard & Patterson, 1992). At the level of sentence production, participants' scores ranged from 5 (David) to 57 (Eleanor) out of 70 on the VAST sentence production subtest (Bastiaanse, et al., 2002). Auditory comprehension of single words (measured by the BDAE: Goodglass, et al., 2001) ranged from unimpaired (Eleanor, Brian and Betty) to impaired (David 7/16, Edward 10/16, Kenneth 12/16). Five of the eight participants (Brian, Betty, Sheila, Patrick and Eleanor) showed no impairment following commands, while Kenneth showed the most impairment at 5/10. Three participants (Betty, Eleanor and Patrick) showed no impairment for comprehension of complex ideational material while Brian and David both scored 3/6, and Sheila and Kenneth both scored 4/6, and Edward was most impaired with a score of 0/6. Language assessment scores are shown in Table 3.2.

Assessments	Max	Cut off	Mean	Std Dev	Edward	Brian	Betty	Sheila	Patrick	Eleanor	Kenneth	David
BDAE classification*					WA	FU	FU	A	BA	A	BA	WA
BNT raw score	60				10	35	47	30	52	49	9	5
BNT - age dependent mean					48.9	48.9	53.3	53.3	55.2	48.9	56.8	53.3
BNT - age dependent st dev					6.3	6.3	4.6	4.6	4	6.3	3.0	4.6
Cinderella: Index of Lexical Efficiency					4.7	4.9	3.4	4.5	5	1.2	#	#
Cinderella: Index of Grammatical Support					3.5	5.6	3.4	5.1	4.4	1.4	#	#
Pyramids and Palm Trees 3 PICS	52	49			48	47	51	47	50	52	47	47
PALPA total repetition	80				43	77	64	79	78	80	45	68
PALPA 9: Single Word Repetition: HI/HF	20		19.94	0.25	13	20	18	20	20	20	13	20
PALPA 9: Single Word Repetition: HI/LF	20		19.94	0.07	12	20	19	19	20	20	12	17
PALPA 9: Single Word Repetition: LI/HF	20		20		10	19	16	20	18	20	9	17
PALPA 9: Single Word Repetition: LI/LF	20		19.52	0.68	8	18	11	20	20	20	11	14
PALPA total reading	80				61	76	56	75	74	80	12	\$
PALPA 31: Single Word Reading: HI/HF	20		19.81	0.6	18	19	19	20	19	20	6	\$
PALPA 31: Single Word Reading: HI/LF	20		19.52	0.93	18	19	17	18	18	20	5	\$
PALPA 31: Single Word Reading: LI/HF	20		19.81	0.6	11	20	11	19	19	20	1	1
PALPA 31: Single Word Reading: LI/LF	20		19.67	0.58	14	18	9	18	18	20	0	0
VAST: Sentence Production subtest	70				30	17	16	26	44	57	6	6
Object Action Naming Battery - verbs only	100				34	52	63	62	95	91	17	17

* WA=Wernicke's, FU= Fluent unclassified, BA=Broca's, A=Anomic

Emboldened figures indicate scores that are within normal limits

\$ Abandoned after scoring 0 out of 5, # Participant unable to attempt this task

Table 3.2: Baseline Language Assessment Scores

3.3. Cognitive assessment data

The participants in this case series presented with a range of cognitive difficulties. Two participants were below the normal range on the Elevator Counting with Distraction (a subtest of the Test of Everyday Attention: Robertson, et al., 1994), with scores below the 1st percentile, indicating difficulties with sustained attention. However, all eight participants scored at the lower end of the normal range on this assessment (i.e. at or below the 25th percentile). In contrast, all eight participants scored within the normal range on the Ravens CPM (Raven, 1962), with only one (Brian) at the lower end of the normal range. On the RCF (Meyers & Meyers, 1995) one participant (Sheila) displayed deficits with visuospatial skills with scores below the 1st percentile for copying, and immediate and delayed recall. Scores for all the cognitive assessments are given in Table 3.3.

Assessments	Max	Cut off	Mean	Std Dev	Edward	Brian	Betty	Sheila	Patrick	Eleanor	Kenneth	David
Ravens CPM	36				27	16	31	29	36	29	36	31
Ravens CPM %ile					<90	<25	<95	<95	>95	90	>95	>95
Wisconsin card sort total categories	6	*	*		3	0	3	4	4	1	n/c	0
WCST trials to complete first category					11	-	11	11	12	20	n/c	-
Brixton Spatial Anticipation Test: Errors					25	22	25	50	16	32	13	33
Brixton Spatial Anticipation Test: classification					poor	Low ave	poor	Imp'd	Ave	Imp'd	High Ave	Imp'd
RCF - copy	36	*	*		28	30	31	22	35	30.5	35	36
RCF - copy %ile					11-16	>16	11-16	<1	>16	>16	>16	>16
RCF - I recall	36	*	*		14	20	23.5	1.5	33.5	15.5	22	29
RCF - I recall %ile					54	>99	92	<1	>99	69	84	>99
RCF - D recall	36	*	*		11.5	21	22	0.5	31.5	17.5	26	28
RCF - D recall %ile					34	>99	88	<1	>99	84	92	>99
TEA: elevator counting without distractions	7	<5			7	7	7	7	7	7	5	6
TEA: elevator with distractions - raw score	10				4	1	0	6	6	0	5	2
TEA: elevator with distractions - %ile					10-25	10-25	>1	25	10-25	>1	25	10-25

* Percentiles, Means, and Standard Deviations are age dependent

Emboldened figures indicate scores that are within normal limits

Table 3.3: Baseline Cognitive Assessment Results

3.4. Self-reported disability profiles

The CAT-DQ (Swinburn, et al., 2005) was administered to all participants with aphasia and their partners, who were asked to complete the assessment concurrently, indicating what they believed their partner's perception of his/her disability to be. On this assessment, the mean t-score for people with aphasia is 50 and the standard deviation is 10, with lower scores indicating a more severe perception of disability. In this case series, seven of the eight participants with aphasia scored within one standard deviation of the mean. Only one participant, Betty, scored lower (between one and two standard deviations below the mean), but was still within the normal range for people with aphasia. Partners' scores were all within one standard deviation of the mean for people with aphasia. There was diversity within couples in terms of the degree to which they concurred regarding the perception of disability experienced by the person with aphasia. The greatest divergence was between Edward's t-score of 59 and his wife's t-score of 47. The t-scores, and subtest scores, of both people with aphasia and their partners are given in Table 3.4.

Assessments

	N=	Mean	Std Dev	Edward	Brian	Betty	Sheila	Patrick	Eleanor	Kenneth	David
CAT Disability Profile - t-score	124	50	10	59	53	37	57	51	51	49	42
Partner's CAT Disability Profile - t-score	124	52.63	--	47	55	46	55	47	50	50	45
CAT DP Talking	16	9.1	3.4	5	9	12.5	3.5	12	8	9	8
CAT DP Understanding	16	4.7	3.77	5	5	12	4	2	6	9	11.5
CAT DP Reading	16	6.56	4.55	5	10	10.5	7	4	0	1	13
CAT DP Writing	16	8.94	4.68	8	11	11	4	7	8	11	16
CAT DP Intrusion	16	7	4.11	5	10.5	12.5	8.5	8.5	7	9	12
CAT DP Self-image	16	6.3	5	3	6	13	3	10	13	9	11
CAT DP Emotional consequences	28	10.03	8.6	2	5	10.5	10	16	18	21	13
Partner's CAT DP Talking	16	9.1	3.4	9	7.5	12	7	13	10	11	10
Partner's CAT DP Understanding	16	4.7	3.77	11	7	10	6	9	5	2	7
Partner's CAT DP Reading	16	6.56	4.55	11	9.5	6	7	4	2	0	16
Partner's CAT DP Writing	16	8.94	4.68	15	11	5	7	3	10	4	16
Partner's CAT DP Intrusion	16	7	4.11	11	8	8	9	8	8	7	13
Partner's CAT DP Self-image	16	6.3	5	9	4	15	4	12	11	15	9
Partner's CAT DP Emotional consequences	28	10.03	8.6	11	4.5	24	10	28	18	24	10

Emboldened figures indicate scores that are within normal limits

Table 3.4: Self-Reported Disability Profiles from CAT-DQ

3.5. Interviews

Semi-structured interviews were conducted as part of the baseline data collection stage. (See Appendix 5 on CD Rom for details). The interviews were intended to elicit information about each couple's experience of, and attitude to, dealing with aphasia, and to complement the CA findings by offering an insight into the motivations of the participants for the behaviours that were displayed in their conversation data and how they felt about these behaviours. Thematic analysis of the interviews is reported in Chapter 4.

CHAPTER 4

INTERVIEWS

This chapter begins with a brief re-orientation to the eight couples who participated in the study. The rationale for presenting the interview findings is then described, including an outline of the findings of previous interview-based studies. This is followed by a description of the processes of data collection and analysis. Finally the findings themselves are reported and discussed.

4.1. Participants

There were 16 participants in total: eight people with aphasia and their eight partners. The age range of people with aphasia was 49 to 80, with a mean of 64.5 years (St Dev = 10.1). Five of the people with aphasia had retired as a result of their stroke, while three had retired prior to their stroke. Time post onset of aphasia ranged from 11 to 180 months (mean = 48 months, St Dev = 56.4). Partners' ages ranged from 42 to 81 with a mean of 55.6 years (St Dev = 12.8). Four of the partners were working (one full time), three had retired and one was a housewife. In this chapter the participants are placed into two groups for reporting purposes: the partners group and the people with aphasia group. This grouping was selected because the interview questions differed for the two groups, and different themes were identified in each group's data due to their different experiences of living with aphasia.

4.2. Rationale for presenting interview data

The original purpose of the interviews was to uncover background information regarding the experience of living with aphasia that could inform the therapy planning stage of the project by exploring the attitudes, beliefs and experiences of the participants. Previous studies using interviews have explored the impact of aphasia on people with aphasia and partners/family members. These studies have reported a number of areas that are relevant to living with aphasia. Interviews with family members and partners have identified inadequate support from family and friends, and loss of contact with friends (Denman, 1998; McGurk & Kneebone, 2013). Changes to roles and responsibilities, including responsibilities for domestic tasks and managing the household finances were reported by some partners (Denman, 1998; McGurk & Kneebone, 2013). A common experience was that family members had reduced their working hours or stopped working in order to manage their carer responsibilities (Denman, 1998, McGurk & Kneebone, 2013). In one study, family members talked about the communication difficulties that they

experienced due to their relative's aphasia and their wish that their relative's communication could be improved (Brown, et al., 2011). Family members also talked about difficulties balancing their concern for the safety of their relative with aphasia with allowing the person to make their own choices (Brown, et al., 2011). In the same study, family members also talked about their perception that their relatives with aphasia also wished to be able to communicate better and experienced frustration as a result of their communication problems (Brown, et al., 2011). Emotional problems including feelings of guilt, and anxiety were reported by family members (McGurk & Kneebone, 2013). Other studies in which people with aphasia were interviewed reported frustration as a result of their limitations in terms of activities such as driving, anxiety about managing activities without help, and loss of friends/social contact (Nätterlund, 2010).

For this study, it was considered valid to explore some of these topics prior to embarking on therapy as the researchers believed that individual attitudes, beliefs and experiences could influence the manner in which participants responded to therapy. For some couples, the interview data was integral to the process of identifying therapy targets. This was the case when positive adaptations were displayed in the conversation data and there were few, if any, observable difficulties that the couple did not appear to be managing in what was perceived to be an optimal manner. For example, in the clinical setting, SLTs commonly urge family members and friends of people with aphasia to guess target words when people with aphasia display word finding difficulties. However, as described below, in this study the interview data revealed that, for people with aphasia, this behaviour is not *always* optimal and can be detrimental because it either prevents the person with aphasia from displaying their own competence by retrieving the word themselves or, if the guess is incorrect, leaves the person with aphasia perseverating on the incorrect word and/or losing track of what it was they wished to say. Where interview data were relevant to the intervention for a particular couple, these are reported in Chapters 5 and 6.

It also became clear when the data from this project were reviewed, however that the interview data constituted a rich source of information that warranted analysis in its own right. These data provided further evidence for findings that had been reported previously as well as some new findings regarding the experiences of the two groups of participants, i.e. the people with aphasia and their partners. The

interview data are therefore presented in this chapter with participants grouped into people with aphasia and partners. Individual comments that were pertinent to the therapy for a particular couple are included in the Results chapters (Chapters 5 and 6), where participants are reported on a couple-by-couple basis.

4.3. Interview method

The structure of the interviews is shown in Appendix 5. Interviews were carried out with each participant individually by the author. Topic guidelines were developed by the author and primary supervisor, based on areas that were identified as potentially relevant from the initial CA. For example, CA of Brian and Ingrid's data (reported in Chapter 5) indicated a lack of collaboration by Ingrid in repair activities. The topic of role was therefore developed as it appeared from the CA that Ingrid had adopted a type of pedagogic role in her interactions with Brian which was untypical of the role of a spouse, and which, it was expected, was different from her role prior to Brian becoming aphasic.

The topic guidelines that were identified for partners were: practical changes, emotions and role. An example of the questions that were asked under the topic of role was: "How do you see your role in relation to (name of person with aphasia)'s talk / well-being / improvement / cognition?" and "What do you see as your role in relation to (name of person with aphasia)?" For the people with aphasia the broad topic of communication was identified, and questions included: "What does (name of partner) do that you find useful to help you communicate (or think) better?" and "Do you ever try to change the way you talk?"

Topic Guidelines: Partners group	Topic Guidelines: People with aphasia group
Practical changes	Communication
Emotions	
Role	

Table 4.1: Topic guidelines

Interviews were conducted in a semi-structured way so that topics could be explored in detail, according to what was relevant for the individual being

interviewed and what was of interest to the interviewer (Britten, 1995). For example, for couples which included a person with aphasic comprehension impairments, there was the potential for comprehension to be of interest within the broad topic of communication, whereas for other couples comprehension was not a relevant issue and was not explored. Although the author attempted to avoid any 'leading' questions, there were occasions where participants were not forthcoming and prompts were given to attempt to elicit comments, which may have resulted in some comments by participants that would not have been elicited without those prompts. This was particularly so for participants with aphasia, for whom extra support was necessary due to their communication problems (Davidson, et al., 2008). For example, it was sometimes necessary to repeat and/or simplify questions when people with aphasia had difficulty understanding what they were being asked and to use 'aphasia-friendly' materials, including written prompts with key words shown in large, bold font. It was also necessary at times to offer a choice of possible responses to reduce the need for people with aphasia to generate novel utterances or to ask 'yes/no' questions (Davidson, et al., 2008).

4.4. Data collection

The interviews were video-recorded and the data were orthographically transcribed from the video recordings by the author immediately after the interviews. On average, interviews lasted approximately 20 minutes with partners and also 20 minutes with people with aphasia. Transcripts of responses from partners ranged from 1234 to 4236 words (mean = 2034, St Dev = 979). The word count of the transcripts of the people with aphasia's answers ranged from 66 to 904 (mean = 379, St Dev = 272).

4.5. Data analysis

Thematic analysis (TA) was selected as the methodology for analysing the interview data because it can be used in a flexible manner to identify, analyse and report potentially unpredictable patterns that are found in the data, and to develop a rich and detailed description of the data (Braun & Clarke, 2006). It is also considered to be one of the most accessible methods of qualitative analysis, and is therefore often used by new researchers, such as the author, and for audiences who may be unfamiliar with qualitative methodologies (Braun & Clarke, 2006).

The seven stages of TA (Braun and Clarke, 2006) were followed in this study. These were: data collection, familiarisation with the data, generating initial codes, searching for themes, reviewing the themes, defining and naming the themes and reporting. Interview data was collected and transcribed by the author after CA of the video-recorded conversation data had been carried out. Some familiarity with the data was achieved at this point, together with the formulation of some initial thoughts regarding areas of potential analytic interest. The interview data were viewed at least three times and each transcript was read at least twice, typically over a period of approximately one week, by the author during the analysis stage, during which time patterns were looked for. The process of analysis was the same for both groups.

In this study, because the interviews were based on topics identified during the CA of the video-recordings, the TA was essentially deductive in that it was driven by the topic guidelines, developed from the CA findings. For example, one topic area that was identified during CA for the partners group was emotions, so a point of interest for TA was whether and how patterns associated with emotions in the interview data might be identified. In carrying out the TA of the interview data, the author was looking for particular themes for both groups, i.e. 'attitudes and emotions', 'roles', and 'communication' for the partners; and 'emotions' and 'communication' for the people with aphasia. During the TA process, each time one of these analytical ideas were identified within the data and transcripts, it was noted as a potential code. Nvivo version 9 was used to support the analysis.

The next stage involved repeating the process of reading and looking for codes. Initially a number of different codes were identified for both groups and these were collapsed into themes for each group, as described in Section 4.6. The iterative process of reviewing the data was stopped when analysis reached saturation, i.e. when no new ideas were emerging as the data was being reviewed. At this point the proposed structure of the final analysis was reviewed by the primary supervisor. The findings of the thematic analysis are reported below.

4.6. Thematic analysis findings

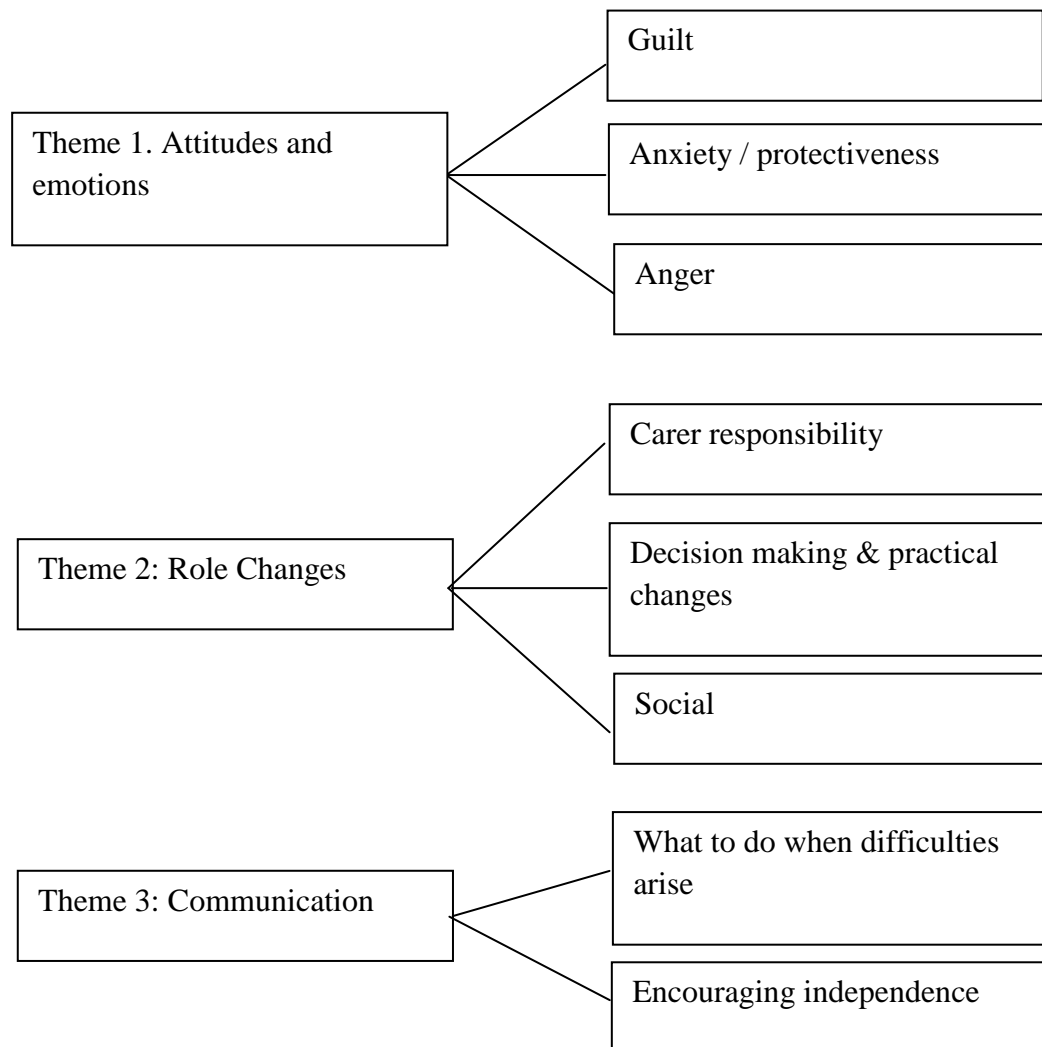
From the initial coding process, three themes were identified for the partners group and two themes for the people with aphasia group. The themes for the partners group were: 'attitudes and emotions', 'communication', and 'role changes'. These

themes were identified if they occurred in at least 50% of the partner group's interview data and were raised by the partners on more than one occasion. So, for example, the theme of attitudes and emotions was identified in the data from five of the eight partners, Miranda, Amanda Cathy, Maureen and Diane. For the people with aphasia group two themes were identified: 'communication' and 'attitudes and emotions'.

4.6.1. Themes for the partners group

The themes for the partners group (attitudes and emotions, role changes, and communication) captured the topics that were raised by the participants in this group, although not all participants talked of all of the themes and there were differences within the group in terms of how the partners represented the themes. For example, within the theme of role changes, Diane and Amanda talked of reducing their working hours, and Maureen talked of abandoning her own plans to return to work as all three needed more time to accommodate their role as carer for their partner. In contrast, Cathy's role had changed as she had become responsible for maintaining her family's financial commitments, which had resulted in her increasing the number of hours that she worked.

Figure 4.1: Thematic map - Partners group



Theme 1: Attitudes and emotions

Guilt

Some partners experienced guilt, related to what they perceived to be inappropriate or unkind reactions to their partners by either themselves or others, which was not always reported as being solely due to communication problems. For example, Miranda talked about feeling impatient towards Eleanor in a general sense:

"being impatient which I have to say is not a new thing its part of me I can get impatient to be fair, but I think that's probably increased that and I think with both of us there is an increase in being irritable and I for me there's a sense of guilt very quickly for me that always follows with anything like that. I very quickly feel guilty that I shouldn't I shouldn't be irritable and I shouldn't be this I shouldn't be that

even though I think it through and rationalise it and 'be fair on yourself', but there is a strong sense of guilt around".

Anxiety / Protectiveness

Partners also talked about feelings of anxiety and protectiveness. Amanda and Miranda both described their anxiety about whether or not to help when their partners could not find a word. Amanda reported feeling anxious that attempting to help with word finding problems could cause Sheila to become agitated if she had wanted to retrieve the word herself:

"I don't want to offend her coz she'll say sometimes 'I'm not stupid' and I never think that, but sometimes by me saying the word ...".

In contrast, Miranda explained her anxiety about guessing incorrectly which could cause Eleanor to become agitated, for example if she lost her own train of thought and perseverated on the incorrect word Miranda had suggested. Miranda also felt anxious that Eleanor would assume Miranda was not properly understanding her if her guess was completely wrong:

"I'll come in with something and ... what I think happens is sometimes if it's the wrong thing uhm is that it actually knocks you off somehow doesn't it and it actually becomes much more difficult to get back on and that causes a lot of frustration for Eleanor".

Protectiveness and anxiety were referred to by partners in terms of their fear that the person may have another stroke. Some observed that this caused them to attempt to protect the person from engaging in potential risky activities. For example, Edward had been a keen racing cyclist and had had his stroke while he was cycling. Although his wife knew that this was due to changes to medications, she was reluctant for him to ride his bike at all after the stroke. Amanda said that, if she got no answer when she rang her mother at a time when she expected Sheila to be home, she felt compelled to drive over because she was so fearful that her mother may have had another stroke.

"I know it's probably silly, but if she was meant to be home and I phoned and there was no answer and I just worried and worried and I used to drive over and it took ages and even if I'd seen her already it didn't make no difference ... so this thing the alarm thing its great".

Some participants talked of feeling protective in respect of leaving their partners alone. For some this related to social situations where they felt that the person could struggle with their communication (particularly with strangers) and become distressed. For others there was anxiety about leaving the person with aphasia overnight, for example because of the fear of another stroke. Miranda reported that in the year since Eleanor's stroke, she had not left her overnight:

"yes it has I mean I haven't for example for the past year ever left her overnight uhm and I think she hasn't wanted me to well I know she hasn't and uhm ... it's a difficult thing because I think she is probably a bit frightened of staying on her own and maybe I'm a bit frightened of leaving her on her own so those sorts of uncertainties in a way it seems crazy but ..."

In terms of feeling protective about the person with aphasia in a situation when they may need to speak with a stranger, Cathy described concerns about how Kenneth would cope if, for example, he had an accident while driving and Maureen described the difficulty Edward experienced when the price of his daily newspaper changed. Ingrid talked of her husband's difficulty on one of his first "errands" post-stroke when he was unable to ask for the item he wanted in a shop.

Cathy spoke of protectiveness making her "controlling":

"I don't like you to do things on your own, I'm quite controlling ... I should just leave him to it really".

Maureen talked of the difficulty of balancing her instinct to be protective with the need to allow Edward some independence:

"it's a balance between Edward having the independence and not nagging him and seeming to interfere in things that he can still use his mind and do what he wants to do and me trying to keep him safe and uhm yeah because I can see things that he's doing wrong and I can see where he needs help and it's like I always want to jump in, but sometimes you can make things so much easier."

Partners talked about this sense of protectiveness leading to some controlling behaviours regarding the activities of their partners with aphasia. This appeared to be borne out of a fear that the person with aphasia may not manage to communicate successfully, and could either be in danger, or be vulnerable to losing face. For example, Cathy talked about her anxiety when Kenneth was able to start driving after this stroke:

"Like when he got his driving licence back I was like 'anxious face and gesture' every time he goes out. I still do a bit now really not that he's any problem driving but I just think ... I mean I had a car crash before Christmas and what a performance it was with the two other people and I thought what would he do if you can't speak ... there's all those little worries as well, might never happen but you just ... it wasn't until I was involved in one that I realised oh my god what would he do ... what would happen if he was stopped by the police and couldn't talk ... being breathalised".

Anger

Anger was another emotion that partners described. Maureen, Diane, Cathy and Miranda described feeling angry because they felt their partners had enjoyed healthy lifestyles with no risk factors for stroke. Partners expressed frustration that even during hospital admissions after the stroke, the person with aphasia was unable to achieve simple things like selecting food from the menu, or getting a cup of tea the way they wanted it. Tina described it as:

"it's like because she couldn't say anything you could see obviously she was so frustrated but because I knew her I knew what she needed or I could guess you know. It's like when she was in hospital, obviously we went with her and she was trying to explain about the man with the tea and she couldn't tell him that she wanted a cup of tea but eventually it took a good hour day 1 to work out what it was."

Cathy made a similar comment:

"staff at hospital who don't understand aphasia, and it's so frustrating and I needed to do things like leave a note to say tea with milk no sugar because otherwise Kenneth wouldn't get drink or he'd get something he didn't want ... but the GP is good."

Partners also talked about anger that the stroke had happened. The partners of the younger participants with aphasia in particular described anger about their partner's stroke. Tina said: *"I feel like annoyed you know what I mean, about why did it happen."*

Cathy talked of anger too:

"When I think how fit and healthy he was, he was an oil rig worker, he had a gym membership, playing golf, loads and loads of walking so for this to happen to him

yeah, it was quite a bit of anger there ... he wasn't one that drank smoke overweight uhm oh everything else".

Theme 2: Role changes

Role changes as a result of aphasia included partners taking on new roles and responsibilities, including the role of carer, domestic and financial responsibilities, decision-making and practical changes, and changes to social roles.

Carer responsibility

Diane reported that she had reduced her working hours to care for her partner:

"I'm doing part-time now, by the time I've got Peter up and everything ... and I need time for all the other things, appointments and things, physio and that ..."

Maureen said that she had been planning to look for part-time work following a period of ill health herself, but she had not felt able to leave Edward for long periods after his stroke:

"... in the end I went off sick and I didn't go back and then he had his stroke and me mum died and I just didn't so part of me thinks it's great not working but part of me thinks if I just had me hand in part-time I wouldn't want full-time again ... I mean I do think about that I don't want a full blown manager's job like I had but I would like something ... I'm too young to retire I know I could go out now and leave him for a couple of hours I couldn't have left him at one point"

Amanda reported that she would have liked to increase her working hours, but needed to keep time free for caring responsibilities, such as taking Sheila to appointment:

"like this week, she's seeing the cardiologist at the hospital and you never know how long it'll take and even y'know shopping and things, and I do most of the cleaning and it all takes time and that and y'know you can't do it if you're working full-time or you've got to be always organising to have bits of time off and that".

Decision making & practical changes

Partners described various changes in their roles and responsibilities, including making decisions, taking over the driving, DIY and gardening, making appointments and taking the lead or 'public' role in discussions (e.g. medical consultations,

household decisions). Some partners talked of how responsibility for decision making that used to be shared now fell to them alone. Ingrid commented:

"I'm the head one now for making decisions and things. I ask his advice 'do you think...' you know but he says 'I don't know'."

Bonnie also talked about the sense of responsibility for making decisions:

" well actually I'm just going through that with this house thing and I find its quite scary coz you think right I've got to make the right decision its got to be in the right place and just the thought of actually emptying this house on my own I think that's why I haven't done anything about it coz I just can't deal with that ... "

Cathy talked about practical issues such as DIY, gardening and driving. She said:

"Kenneth was able to do all sorts of things but now I have to. The garden, the house, driving the kids around...taxi driver, until our son got his licence and then Kenneth got his back too".

Cathy also talked about how Kenneth had worked shifts prior to his stroke and that he:

"used to do lots more when he was home, grocery shopping etc.... it helps now he's driving again".

Cathy also talked about the impact of the loss of her husband's income. Unlike other partners who had reduced their working hours to manage their carer responsibilities (e.g. Amanda and Maureen), Cathy reported that she had increased her working hours from part-time to full-time, and that she had two jobs in order to maintain the family's lifestyle: *"I have two jobs ... big house to look after ... "*

Social roles

Many partners reported social changes, including a reduction in their social circle and a sense that some friends had fallen away. For example, Ingrid commented: *"you find out who your friends are"*.

Cathy commented on how well her son's friends communicated with Kenneth, but how their own friends tended to avoid being alone with him. She said that:

"most of his friends won't come unless I'm here. I don't think anybody ever comes round when I'm not here.... would be very lonely for people who have aphasia and live alone ... couldn't even go to a pub or anywhere a man would go to socialise ... the golf course he could probably try playing again but I've not got time to take

him ... not sure if he could play but if he could I still don't think they would come around and take him to the golf course. He could caddy if he couldn't play but they've all avoided it... he'd like to play golf, or walk around course caddying, but friends won't seem to take him".

Miranda observed that Eleanor tended to become left out in social situations and that she herself tried to facilitate Eleanor's involvement, by, for example, directing her eye gaze towards Eleanor to include her:

"I think in social situations there is definitely a role y'know if we're with friends maybe that's easier but I mean this I'm very aware now if we're sitting at the dinner table or something like that and I'm very aware of whether or not E's being excluded and very often I'll just turn and look towards her and sometimes she says 'what what is it' but really all I'm trying to do is to try and bring Eleanor in it's a way of bringing Eleanor in its not that she needs to say anything but people just don't excluded her in terms of eye contact because I think that's just so humiliating."

Theme 3: Communication

What to do when difficulties arise

In terms of communication, some partners were able to identify behaviours that they had adopted in response to the stroke. Cathy said that she talked for her husband: *"but I did before (laughing) so that's not really changed"*.

Ingrid said she had been told that when her husband had word finding difficulties, she should *not* guess the word he wanted: *"it's no good me putting words in his mouth, he's not saying them"*.

Maureen talked about her husband's comprehension difficulties:

"we'll go out and when we come back he'll ask me lots of questions about things and then I have to explain what's you know what really was going on and when he's watching telly it's a good job we've got sky because I can stop it coz he'll say 'what's going on there what's he done that for' because he's missed whole chunks of the plot a crucial thing so now what I'll do is I'll stop it and ask if he knows what's happened and explain and I'm thinking he'll never get that he's just going to completely lose this so there's lots of little things that I do to help him".

Diane spoke of frustration that her husband insisted on taking time to find exactly the right word: *"he's trying to think of the biggest word in the world ... the hardest"*.

She felt that often a different word would have allowed him to express his meaning adequately, and more quickly, which as the listener, she would have preferred.

Partners also felt anxious about whether or not to attempt to collaborate in repair activities initiated by the person with aphasia, as they were aware that, at times, their help caused agitation. This included anxiety related to judging whether to help at all and, if helping was judged to be appropriate, how quickly the partner should begin to do this. For example, Amanda, said:

" it depends what mood she's in coz sometimes she'll say to me, tell me the word I'm looking for, But then sometimes she says don't tell me because ... it just depends if she's in a fighting mood to get it herself because sometimes you think if I say it is she going to get upset coz I've given it to her, or if I don't say it, is she going to get upset coz I'm making her struggle ...".

Encouraging independence

Tina described a concern that Betty had become somewhat dependent on her to communicate on her behalf, and she was keen to encourage more independence on Betty's part.

"She quite often rings me to ask me what shall she do or will I ring for her because obviously she can't ring so she'll say to me this has happened what shall I do or whatever. then I'll say just give me the number but she can't tell me the number or if she does its wrong, it comes out wrong so sometimes she'll email me so I can see what it is."

Tina also said that she was aware of Betty tending to rely on Tina to do the talking, because she had experienced something similar with one of her daughters previously:

"and I don't know if that influenced it, you know coz it was similar to Betty she just would put her head down and look at me to speak for her and when I walked away so she'd have to do it like Isabel (daughter) so she relied on me"

Tina talked about her concern at Betty's dependence on her for communication and gave the example of Betty avoiding making eye contact with people and leaving Tina to talk for her:

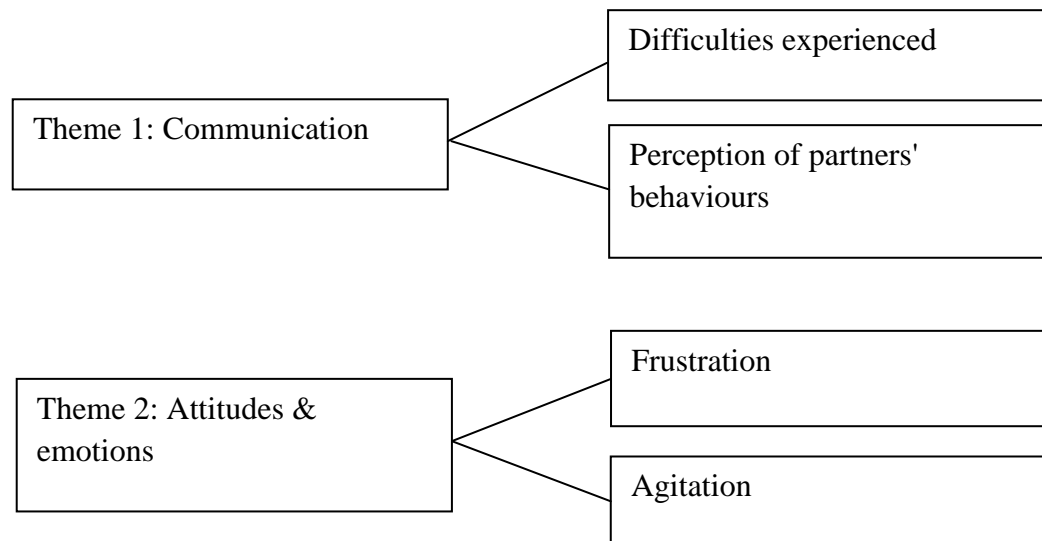
"yeah ... she put her head down and completely she wouldn't look at people because then she wouldn't have a conversation with them I've seen her do it loads of

times but then I knew she did it so I'd just walk away so she had to do it ... like in the shops Betty would say "what are we doing where was you" coz she had to do it, even people she knew she could pretend she didn't see them ...".

4.6.2. Themes for people with aphasia group

Fewer questions were asked of the participants with aphasia in this study than the partners and the themes that were identified in their data were similar to those of the partners. While SLT clinical skills, in terms of supported conversation practices (e.g. using writing key words, drawing, repetition/redoing key phrases, checking understanding, etc), were used in the interviews with people with aphasia, the author felt that some of the participants may not have fully expressed their views because of their linguistic limitations. For example, the responses of the participants with the more severe aphasic difficulties, tended to be either "yes" or "no" in response to closed questions, because they were not able to express their views when questions were asked in a more open way. An example of this occurred when David was asked if there were things that Bonnie did that were helpful. He said "yeah", but when asked to give examples, he was unable to do so. Therefore he was asked a closed question about whether or not Bonnie guessing was helpful, to which he responded "yeah ... not really". For this reason there are fewer quotations from the people with aphasia group to illustrate the points that were made, and those that were identified tend to be shorter than those from the partners group. The themes that were identified for the people with aphasia group were attitudes and emotions, and communication. It is acknowledged that the theme of attitudes and emotions is linked to the theme of communication and during the analysis, consideration was given as to whether or not both themes were justified. However, it was decided to treat the two themes as separate because while communication was central for the people with aphasia group, some of the comments regarding communication did not include any reference to attitudes and/or emotions, and there were instances of attitudes and emotions that were not related to communication issues. For example, in the following section, Patrick's comment about how his communication difficulties prevented him from using humour as he had previously was made without any reference to any attitudinal or emotional experiences.

Figure 4.2: Thematic map - People with aphasia group



Theme 1: Communication

Difficulties experienced

Some participants with aphasia talked about specific communication difficulties that they experienced. For example, Patrick was aware that his need for extra time prevented him using humour in the way he had before his stroke. He said: *"used to life and soul, but now I can't"*.

Eleanor was aware of taking longer to express herself and felt that this caused frustration for Miranda:

"I'm aware that at times she's frustrated with me er yes just frustrated ... and she wants to get on to something else".

Perception of partners' behaviours

Participants in the people with aphasia group talked about things that they were aware that their partners did as a result of aphasia. Generally they described their partners as supportive communicators, although not all were able to describe the ways in which their partners were supportive.

Betty, who had comprehension difficulties, described Tina as supportive in that:

"She's better coz we talk she's does is makes speaks slow slow and she's got time to help me".

Eleanor described her partner as generally being a good listener, which she felt was helpful:

"Well uhm uhm when she focuses on me she listens very uhm carefully uhm she is a good listener I probably contradict some things but it's er the nature of the relationship so she's very and she very much aware of me in other in company or in in very much in touch with me and that's that's really good".

When David was asked specifically "Does Bonnie do things that you find useful to help you communicate (or think better)?", he replied "yeah" and with supported conversation he indicated that it can take a long time with Bonnie making a guess, him saying "no", Bonnie guessing again and this pattern being repeated so that it was a slow process to get his message out. David explained that at times:

"can't do" but "keep going yes ... trying yes ... slowly and then ... come here again ... no alright ... and then slowly again ... again ... yeah sometimes and no like that ... keep going yes ... slowly and then ... come here again ... no alright ... and then slowly again ... again" ... sometimes and no like that ..."

Some participants with aphasia expressed frustrations with the communicative behaviours of their partners. For example, Betty found that, at times, Tina talked too much and she reported telling her to stop sometimes:

"Sometimes she's talking too much and I say 'leave it', I go 'bye bye'. ... I don't understand I say 'no just leave it' she leaves it later coz sometimes my brain's just gone off so I say to Tina 'just leave it I can't hear I can hear, but you know understand'."

Eleanor also commented that her partner talked too much at times but she did not ask Miranda to stop talking in a similar way to that which Betty reported. Instead, Eleanor described allowing Miranda to finish her turn but then finding it difficult to respond:

"uhm well she talks quite a lot and uhm uhm she she would say now uhm I've finished what I'm .. y'know, please let me finish and so I by the time she's finished y'know I'm forgetting y'know I've forgot what it was and it's an important thing and I think oh y'know just leave it ..."

Kenneth indicated that, whilst most of the time he did not mind his wife speaking for him, he would only allow her to do this to a point and then he stopped her with "no no".

Theme 2: Attitudes and emotions

Frustration

Frustration was a commonly reported emotion by people with aphasia. Sheila described frustration regarding her word finding difficulties and explained that while she accepted that at times she needed help to retrieve words, she also wanted opportunities to demonstrate her competence to her daughter, by completing word searches herself:

“with you I want to get it right wait a minute so I’m trying so hard I’m trying so hard for you, but to other people I can do it because I want to be for him for her good”.

This led to agitation when Sheila felt that Amanda had not given her enough time for her word search.

Eleanor acknowledged that when Miranda guessed a target word correctly she welcomed this help:

“well yes mainly I do because it speeds me up and I’m allowed to say what I want to say with no interruptions y’know and it helps”.

However she described frustration when Miranda guessed incorrectly:

“but sometimes I get frustrated if she gets the wrong word and its has a totally different meaning to what I want”.

Agitation

Eleanor described feeling patronised on one occasion when she was aware that Miranda was not following the explanation she was providing, despite claiming that she did:

“I realised that Miranda didn't understand me in spite of her saying I do I do y'know”.

Eleanor was irritated by this as she felt that her explanation had been clear and she wanted Miranda to understand precisely. However she felt that Miranda's claim to understand prevented her from engaging in further repair activities. She also commented that Miranda had a tendency to talk at length, which made it difficult for Eleanor to participate fully because, by the time Miranda reached the end of her turn, Eleanor tended to lose track of what she wanted to say herself:

"uhm well she talks quite a lot and uhm uhm she she would say now uhm ... y'know, please let me finish and so I by the time she's finished y'know I'm forgetting y'know I've forgot what it was and it's an important thing and I think oh y'know just leave it so so so she uhm I don't know whether that could be uhm that's uhm could be resolved, but I don't want her to be inhibited y'know, but ... "

4.7. Discussion of TA findings

Analysis of the interview data of this study resulted in five themes being identified. For the partners group, the themes were emotions and attitudes, role changes, and communication. For the people with aphasia group, the themes were attitudes and emotions, and communication. During the analysis process, it was evident that there was considerable commonality in terms of the experiences of the participants within each group, although differences did exist. For example, all participants in both groups spoke of experiences that were identified within the theme of attitudes and emotions. However, participants in the partners group reported a wider range of attitudes and emotions, including guilt, anxiety/protectiveness and anger, while participants in the people with aphasia group were less diverse in the attitudes and emotions that they reported, describing frustration and agitation. It is possible that the linguistic limitations of the people with aphasia group may have impacted the range of attitudes and emotions that they reported, although, as described in section 4.3, the interview method was designed to provide appropriate support for people with aphasia to enable them to express their views.

The findings from this study are broadly in line with what has been reported in previous studies where people with aphasia and/or partners or family members have been interviewed. For example, the changes to roles and responsibilities that the partners group described have been reported previously (Denman, 1998; McGurk & Kneebone, 2013), as has the need to reduce working hours or stop working due to carer responsibilities (Denman, 1998, McGurk & Kneebone, 2013). The difficulty of balancing concern for the safety of people with aphasia with the need to resist acting in an over-protective manner has also been reported (Brown, et al., 2011). For people with aphasia themselves, the findings also broadly corroborate previous studies. For

example, difficulties managing communication problems were reported by people with aphasia (and by partners reporting their perception that relatives with aphasia experienced frustration as a result of their communication difficulties) (Brown et al., 2011). Frustration as a result of their limitations in terms of activities such as driving, anxiety about managing activities without help, and loss of friends/social contact have also been reported by people with aphasia (Nätterlund, 2010).

One finding from this study that, as far as the author is aware, has not been reported previously is the emotional experiences of people with aphasia when they feel that they are not given sufficient time to retrieve a target word, or when partners guess incorrectly, or the feeling of being patronised when a partner's behaviour displays that they have not understood the person with aphasia, despite claiming to have done so.

It is also the first study in which both interview data and video-recorded data have been collected, analysed and reported together. For the participants in this study, this has demonstrated that combining two types of data enables a much richer and more in-depth examination of how aphasia affects interactions and how participants feel about their own behaviours within conversation. It has also demonstrated the importance of customising interaction-focused therapy to take account of how what can be observed in video-recorded data may be experienced by different individuals. An example of this is Sheila's perception of Amanda's collaboration in repair activities, which could be perceived as a positive behaviour when observed in the couple's video-recorded data, but was reported as a potentially negative behaviour by Sheila during the interview. The similarities and differences between the interview data and CA data will be discussed further in the Discussion chapter.

4.7.1. Strengths of interview data and TA findings in this study

Conducting an informal interview with participants prior to commencing a programme of therapy provides an opportunity to build a positive therapeutic relationship, and gives the participants the opportunity to express issues of concern to them. In terms of the primary purpose of this study, i.e. to explore therapeutic interventions to optimise conversations between people with aphasia and their main conversation partners, the interview process provided data which either corroborated or contradicted the findings of the CA of the video-recorded conversations. As has

been described previously, CA is a tool that is designed to describe what is observed to be happening in any given interactional data, but it is not designed to provide any explanation or account for what is happening in terms of the participants' motivations for doing what they do. For this reason, CA findings can be misleading clinically, when applied to the conversations of people with aphasia because what can be observed in CA terms from data involving non-communication disordered participants, may not be typical for interactions involving speakers with aphasia, and what is perceived positively by one set of speakers may not be perceived positively by another. The interview was therefore an opportunity to explore the views of the participants about their communication, and to incorporate those views when planning the individualised interaction-focused therapy.

The interview also allowed the participants to talk about the impact of aphasia on their lives beyond their conversational experiences. This may be therapeutic because the opportunity to discuss the impact of aphasia may not occur frequently, and because the interviewer may be able to provide reassurance that the concerns expressed by one participant are similar to the concerns that other participants typically describe. For the partners group in particular, it is unlikely that they will have been given much opportunity to talk about the emotional experiences or practical changes that have resulted from aphasia, which can be an isolating experience for partners as well as people with aphasia. In this study there was evidence that partners were aware that their own social networks had changed or reduced. For example Ingrid talked of "finding out who your friends are" while Miranda talked about conscious behaviours that she used socially to ensure Eleanor was not excluded in social situations. The experience of changed/reduced social interactions has been reported for people with aphasia previously (e.g. Parr, 2001), but has not been widely reported in terms of partners.

It has been reported previously that in the chronic stages, people with aphasia may be more concerned with the impact of aphasia on their lives generally than with specific therapy for their linguistic and communication difficulties (Parr, 2001). Thus the themes that have been identified in this study may be useful for future studies, as they provide evidence of common experiences across groups of people with aphasia and their partners.

4.7.2. Limitations of interview data and TA findings in this study

There were a number of limitations associated with the interviews in this study. There was a larger volume of data from the interviews with the partners group than from the people with aphasia group, which may account for identifying three themes for the partners group and only two for the people with aphasia. This can be explained by the facts that fewer questions were asked of the people with aphasia group and that this group's linguistic difficulties are likely to have limited their ability to express their views, particularly in the cases of the more severely aphasic participants in this study, i.e. Edward, David and Kenneth. For example, David and Edward both reported that their partners were supportive in terms of communication, but they were not able to illustrate in what way(s) this manifested itself, so it is difficult to interpret these responses. It may have been that the comments were general and intended to acknowledge a wide range of support (including caring), as David and Edward both had significant comprehension problems and may not properly have understood what they were being asked, despite the interviewer's use of supported conversation techniques. On the other hand, it is possible that although the interviews were conducted individually, participants may have been somewhat guarded in their responses at times and reluctant to say anything that could be interpreted as critical. This could equally account for David and Edward's reports that their partners were supportive, because it might appear disloyal to say otherwise.

It is unclear to what extent, if any, video-recording these interviews may have influenced the responses of the participants. There was no overt evidence that participants were aware of the camcorder during the interviews. In one study of GP-patient interactions, when patients were asked post-hoc whether or not the video-recording had influenced their behaviour, around 70% stated that they had forgotten that the interview was being video-recorded (Coleman, 2000). In this study, all the data collection and therapy sessions were video-recorded, because it was considered valid to capture the nonverbal behaviours of participants as well as their verbal responses. This was particularly relevant for the participants with aphasia, for whom nonverbal communication was often used to augment verbal responses. However, research into the effect on internal validity of video-recording GP-patient consultations has been inconclusive, and it has been suggested that more work needs

to be carried out to determine whether the use of video-recording may influence the behaviour of participants (Coleman, 2000).

A final observation is that the post-therapy interview data have not been analysed in this chapter because the interviews were designed primarily for the purpose of obtaining information to assist the intervention planning, and questions that were asked post-therapy were less in-depth, and were focused on the participants' experience of the therapy. Some anecdotal comments from the post-therapy interviews have been included in the Results chapters, where these appeared to support (or otherwise) the CA findings post-therapy, however the volume of data collected post-therapy was limited and would be unlikely to be sufficient for any meaningful analysis. Post-therapy comments to the treating clinician are unlikely to be reliable in terms of therapy outcomes, as participants have a tendency to be biased in favour of the therapy in order to avoid offending the clinician or betraying the relationship of trust that has been established through the course of therapy (Morris, Howard, & Kennedy, 2004). It is possible that post-therapy interviews conducted by a person previously unknown to the participants could elicit more reliable reports. For the purposes of this study, however, the post-therapy interview findings were not a primary means of measuring therapy outcomes, but were intended to give the participants an opportunity to influence how future interaction-focused therapy studies could be improved.

CHAPTER 5

RESULTS I: COUPLES WHO DISPLAYED CHANGES

This chapter reports the four couples in this case series who displayed changes in their conversation data after the interaction-focused therapy. It describes the analysis of each couples' baseline data, the interaction-focused therapy the couple received to address the CA findings of the baseline data, and analysis of the post-therapy data. The findings will be discussed in Chapter 6.

5.1. Betty and Tina

5.1.1. Background

Betty (aged 60) and Tina (aged 42) had been friends for approximately 30 years when they joined the study. Betty had had a stroke approximately four and a half years previously, which had caused her aphasia. She presented with a mild to moderate fluent aphasia, as shown in Figure 5.1. Her speech included word finding problems, paraphasias, neologisms, and perseveration, but was produced with normal intonation. Her receptive language difficulties were mild to moderate: on the BDAE (Goodglass, et al., 2001) comprehension subtest, she scored 2 out of 3 for single words and 4 out of 4 on sentences and paragraphs. In conversation, her comprehension problems manifested when she produced other-initiations of repair, typically by stating she had not followed what had been said and asking for a repetition. Betty's reading and writing were relatively well preserved and she was able to use spelling aloud and "finger writing" (i.e. writing some or all of the letters in the air while also speaking) to cue words when she had difficulty retrieving them.

Betty displayed cognitive strengths and difficulties, for example, on the RCPM (Raven, 1962), her score of 31 out of 36 placed her at the 90th percentile, and her immediate recall of the RCF (Meyers & Meyers, 1995) placed her at the 92nd percentile, although her score for copying placed her between the 11th and 16th percentile. When the TEA with distractions (Robertson, et al., 1994) was administered, she failed to count any of the ten stimuli correctly resulting in a score below the 1st percentile, and joint lowest with one other participant. Betty and Tina completed the CAT-DP (Swinburn, et al., 2005). Betty's self-rating resulted in a t-score of 37 which is between one and two standard deviations below the mean (mean = 50, SD = 10), and was the most severe score for people with aphasia within this study. Tina's t-score of 46 was within the normal range. Analysis of the subtest

scores showed that Betty and Tina perceived Betty’s self-image and emotional state to be the most impacted by her aphasia.

When they were interviewed about Betty’s difficulties and their impact on the couple’s conversations, Betty described Tina as a good conversation partner although she found it difficult to explain why this was. Betty’s main comments regarding conversations with Tina included: *“She’s better coz we talk she’s does is makes speaks slow slow and she’s got time to help me”*, indicating that Betty was aware of the way Tina adapted her talk to aid Betty's comprehension. She also commented: *“Sometimes she’s talking too much and I say ‘leave it’, I go ‘bye bye’. Sometimes I’ve talking if we the car or we go and I don’t understand I say ‘no just leave it’ she leaves it later coz sometimes my brain’s just gone off so I say to Tina ‘just leave it I can’t hear I can hear, but you know understand’”*.

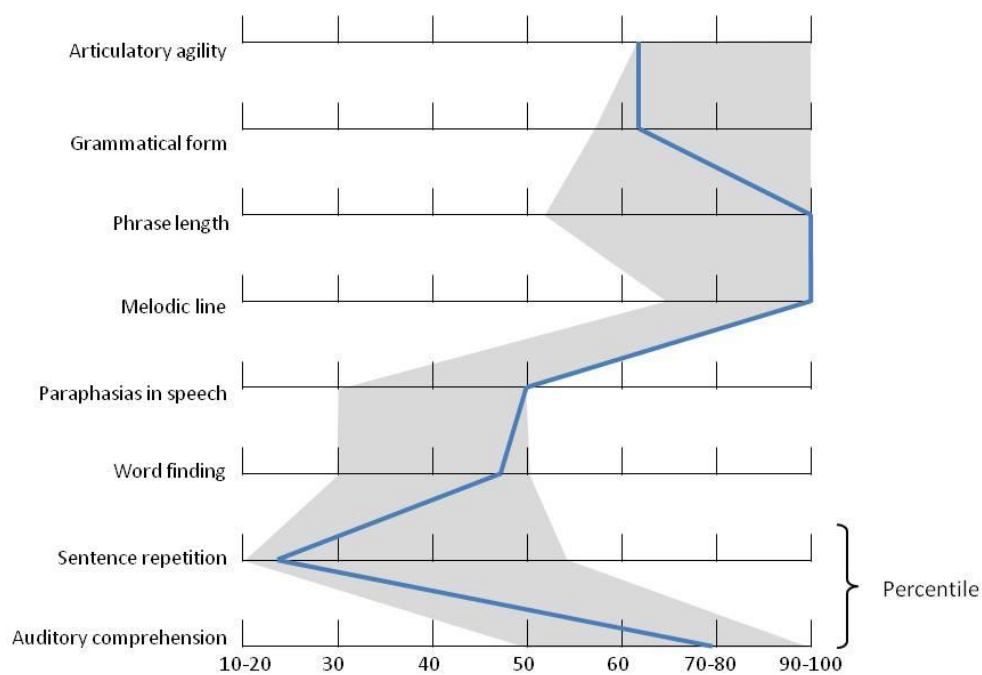


Figure 5.1: Betty’s BDAE profile

Betty expressed frustration about her comprehension difficulties, saying: *“Sometimes if we’re talking and we’re talking too much talking and then she wants she wants she would like it’s hard for me sometimes it’s hard I don’t understand some things”*. Tina described a concern regarding Betty's mood, saying: *“she did*

worry me at times at the start er she was that low because everything, her work had gone and she didn't know if it would come back, when it'd come back. It was her whole life really she just didn't know what to do. It was like where's this person who was so strong and you know and I think now we're seeing a bit more she still is upset and has a good cry. I think she's got more used to it and she still gets angry you know 'why can't I do it' but a lot less than what she did before". When asked what she had found useful in terms of Betty's communication, she said "just slow speaking really", but acknowledged that this was tiring because "I have to concentrate and talk slow". Tina observed that Betty is easily distracted and reported that she is a "sort of a perfectionist in a way".

5.1.2. Analysis of pre-therapy conversation data

Twenty two minutes of this couple's 153 minutes of conversation data were transcribed and analysed according to CA protocols. A number of behaviours were identified as adaptations that the couple had developed in response to Betty's aphasia, some of which seemed positive while others appeared to be potentially disruptive. One pattern was that Betty used a range of verbal and non-verbal methods to convey her meaning, including gestures and environmental cues, showing objects that she could not name and doing pantomime gestures; she used spelling aloud and "finger-writing" while speaking (e.g. "writing" the letters of a word that she was unable to say); and she used an "X not X" formulation which involved producing a paraphasic error (usually, but not always phonological) or a neologism and stating that this was not correct. For example, when Betty wanted to tell Tina that she had been told her bank card could be "blocked", she was unable to produce the target "blocked" and instead produced the closest approximations that she could in the form of "brocked" "blost" and "black": "I've looked and looked she said it can be it can be er (2.1) ehm (.) perhaps I'll be not brocked blost (1.9) black". As she said "black" she was also finger writing on the table. Tina responded by saying "black" and Betty rejected this saying "no" then spelling out the letters B L O C K while 'writing' them with her finger, then saying "block". This was sufficient for Tina to guess the target "blocked" which Betty acknowledged and continued her turn. By using this range of behaviours, Betty was often able to give Tina enough information to enable her to guess the target.

There was evidence that Tina had developed methods to support Betty's comprehension, such as chunking her talk and repeating key information, as well as explicitly checking at times that she had Betty's attention. For example on one occasion, she said: *"yeah but listen (1.5) you know Anna (3.0) Anna"* and after Betty did a minimal turn, she went on *"she was asking about the house (1.2) this house"*. Tina's "but listen" followed by a 1.5 second pause, ensured that Betty was attending to her talk and she then initiated talk about someone called Anna, leaving a 3.0 second pause after naming her, before repeating the name. These behaviours appeared to increase the likelihood that Betty would follow Tina's talk and avoid the need for her (Betty) to do other-initiations of repair to deal with understanding problems. These behaviour were similar to two other partners in this study, Maureen and Bonnie (see Chapter 6), who both displayed adaptations to accommodate their partners' comprehension difficulties.

In terms of potentially disruptive behaviours, there was evidence that the couple engaged in CPSs, (possibly due to Betty's perfectionist tendencies as reported by Tina), and that Tina tended to act as a "monitor" of Betty's language. Tina's monitoring behaviour took the form of comments about Betty's ability to retrieve/produce words, and feedback to Betty about her language production. For example, on one occasion when Betty was having difficulty producing a person's name, Tina said *"no (1.6) what's happening with this"*, then *"you're saying it wrong today"*, and after a 1.2 second pause, *"you know what she's called?"* Then, when Betty correctly produced the target, Tina gave her feedback in the form of *"that's right"* (see extract 5.3, page 81.) Whilst there was no evidence that this behaviour was distressing or problematic for either Betty or Tina, it did disrupt the flow of their conversation and meant that Betty's aphasia remained conspicuous. It is possible that Tina's behaviour may have been related to the experience of speech and language therapy that she had had with her daughter some years before, as she commented that: *"I don't know if it was coz of my youngest daughter and her speech therapy, I don't know if some of the skills that she then did with her and I learnt and I've then done with Betty so I don't know if it was just that really."*

5.1.3. Betty and Tina's pedagogic behaviours

Betty and Tina engaged in CPSs, typically following repair of a phonological difficulty by Betty. Interestingly, Betty often initiated these practices, although not always.

Extract 5.1: A_1_2

107 B Oh I don't know [anymore]
108 T [I think it is] isn't [it]
109 B [I] it
110 don't say anymore does it and then [you don't]
111 T [You know]
112 what I mean I think they've joined up
113 B You've got no I it's no it drives me mad because
114 I so she said I can go if I come to (2.3)
115 -> [San]
116 -> [((writing with her finger on the table))]
117 T-> Tander
118 B-> Say it again [San]
119 T-> [San] tan der
120 B-> [San /teə/]
121 -> [((writing with her finger on the table))]
122 T-> San [tan]
123 B-> [sand]
124 -> (2.0)
125 T-> San tan
126 B -> San no don't it's driving me mad
127 T-> Go on
128 B-> No leave it but then I can go (1.6)
129 T What did you have the other day
130 B °what°
131 T D'you know off <on er>
132 [(1.7) Thursday]
133 [((B starts to gaze at the table))]
134 B Yeah
135 T Thursday <when we drove>
136 B I went to I know I [know]
137 T [What] was it

In extract 5.1, Betty has already had difficulty with the name "Santander" earlier in the conversation, but this was repaired and the talk continued. Here, Betty is again unable to produce the name (line 115) and after managing the first syllable (while also finger writing), Tina completes the word (line 117). Betty initiates some practice at line 118, when she asks Tina: "say it again San". Tina, beginning in overlap, says Santander (line 119) and Betty tries, but fails at line 120. Tina gives Betty the first two syllables (line 122) and Betty tries once more, producing "sand" (line 123). A 2.0 second gap occurs before Tina repeats the first two syllables (line 125). This time

however, Betty does not try to say the word again, but begins to close the sequence by saying "San no don't its driving me mad". Tina encourages her to try again, saying "go on" (line 127), but Betty declines, saying "no leave it but then I can go (1.6)". Tina comes into Betty's turn space at this point and asks a question that begins a new sequence in which Betty struggles to name something in response to Tina's question.

In extract 5.2, which is part of the sequence initiated by Tina's question in extract 4.1, Betty has trouble saying the words, 'McFlurry' and 'hamburger'.

Extract 5.2: A_1_2

138 B I know wait a minute (0.6) we went we ate we ate
 139 Something and I went (0.9) °oh god I went er wait
 140 a minute I went by myself (1.1) with the car and
 141 we went and I said oh god makfru°
 142 [(7.2)]
 143 [(B mouthing the sounds)]
 144 B [mak]
 145 [(B raises head and begins looking ahead)]
 146 T-> Please could I have [you said]
 147 B [please] could I have <a>
 148 (1.6)
 149 B-> <°mak°>
 150 [(16.1)]
 151 [(B mouthing the sounds)]
 152 B-> it's not fruli (1.3) makfruli nearly (1.3)
 153 -> mak
 154 T-> fu fu: fu
 155 B-> °muck (2.0) furry° muckfurry
 156 T-> McFlurry
 157 B-> muckflur muckflurry>
 158 T-> [and]
 159 B-> [and] one hambu hambu ham °han° (1.1)
 160 -> [ham] burry
 161 T-> [°ham°]
 162 B-> [°bu°]
 163 T-> [bu] (1.8) hamburg
 164 B -> °burgi°
 165 T-> Burger
 166 B °hamburger° [ham burger]
 167 T [But what did you get] the McFlurry
 168 which one did you get
 169 B With Smarties
 170 T Yeah
 171 B [hahahahaha]
 172 [(B stops looking straight ahead)]

Betty begins the word retrieval activity with her turn from line 138 to 144, which ends with a phonological paraphasia ('makfru') then a 7.2 second pause while she visibly attempts to find the word, before finally saying 'mak' (line 144). Tina prompts her with a form of sentence completion at line 146, which Betty repeats as if trying to self-cue the word, before producing 'mak' again at line 149. She tries silently mouthing the word again for 16.1 seconds, then does a form of "X not X" formulation, which is a sound error ("it's not fruli (1.3) makfruli nearly (1.3) lines 152-153). Tina does another prompt at line 154, this time giving Betty the first phoneme. Betty tries again at line 155, before Tina gives her the target at line 156. Betty practices this (line 157) and Tina then prompts her to name another item at line 158, when she says "and". Betty again has phonological difficulties (line 159-160) and Tina gives her a prompt, this time comprising the first syllable of the target. Betty begins to produce the second syllable (line 162), and at line 163 Tina repeats this, then, after 1.8 seconds, gives the target in full. Betty tries producing the final two syllables, but makes a phonological error and Tina provides a model (line 165). Betty finally gets the word at line 166 and then repeats it, apparently as a practice attempt. The sequence ends when Tina asks what she had with the McFlurry and Betty says 'Smarties', before laughing at line 171. In this extract, it is Tina who initiates the production practice by asking a test question and then prompting the answer, rather than giving it. Betty does not display any negative emotions despite the fact that by asking her to name specific items, Tina has set up this sequence which has highlighted Betty's phonological difficulties. Rather than displaying agitation or distress, Betty's laughter at line 171 suggests that she has experienced Tina's pedagogic behaviour here as benign.

In extract 5.3, Betty is initiating a new topic, i.e. her neighbours, but is struggling with their names.

Extract 5.3: A_3_2

```

060   B      oh yeah no <but then it was just now (1.1) uhm (.)
061   ->    today (1.2) the people next door (.) span no not
062   ->    span Steve>
063   T      [yeah]
064   B->   [no ] Steve
065   T      yeah that's right
066   B      and willi- w- w- w- willian william not william
067         villian no

```

068 T [no (1.6) what's happening with this]
 069 [((taking another chocolate from the box))]
 070 B what
 071 T-> °you're saying it wrong today°
 072 (1.2)
 073 T-> °you know what she's ca[lled°]
 074 B-> [°st:|eve and violet°
 075 T that's [right]
 076 B-> [°voilet°]
 077 T that's right
 078 B violet (0.4) and then I s- <they said to me (1.0)
 079 they said to them happily happity (1.4) happy (.)
 080 new year>
 081 T yeah
 082 B but I couldn't do I couldn't do it back I said
 083 happy (0.8) new but I couldn't even know what to
 084 do
 085 T yeah
 086 B new day no happy new year
 087 T that's right you did it
 088 B yeah now [but I-]
 089 T [yeah]
 090 B yeah I had to tell David I had to shout it Linda
 091 I said what do I do haha
 092 T haha

She does an "X not X" formulation, first getting the name wrong, verbally acknowledging this and then successfully naming the male neighbour, i.e. "span no not span Steve" (line 061-062). Tina does a kind of monitoring turn at line 065, when she says "yeah that's right" and Betty then attempts, unsuccessfully, to name the female neighbour (lines 066-067). Tina has the choice here of doing an other repair, by giving her the name which she knows, or allowing Betty to go on with her attempts at self-repair. She chooses to do another kind of monitoring turn with the metalinguistic comment "no (1.6) what's happening with this". Betty does an other-initiation of repair and Tina clarifies "you're saying it wrong today (1.2) you know what she's called". As Tina is completing this turn, Betty responds in overlap and manages to produce the names of both neighbours (line 074). Tina responds with "that's right", confirming that Betty has succeeded. Beginning in overlap, Betty practises (line 076), and again Tina confirms her attempt is correct (line 077). Betty repeats the name one more time at the beginning of her turn in line 078, before going on with the telling that she set out to do in her turn at lines 060-062). In this sequence, it is Betty who chooses to practise the production of the neighbours' names, while Tina seems to be taking the role of monitoring Betty's talk.

5.1.4. Therapy targeting pedagogic behaviours

Potential therapy targets were discussed with Betty and Tina, and feedback was given regarding the behaviours that were analysed as appearing to be beneficial. The subject of pedagogic behaviours, including CPSs was suggested. This type of behaviour is most similar to the behaviours that have previously been targeted in interaction-focused therapy, although for this couple, this behaviour did not appear to be distressing in the way that has been reported previously (e.g. Booth & Perkins, 1999; Wilkinson, et al., 1998), potentially because Betty was able to initiate and end CPSs. The proposed target was to reduce pedagogic behaviours from the couple's conversations, i.e.:

- CPSs (but retaining the option to note problematic words to practice off line)
- monitoring behaviours (e.g. comments such as "that's right" by Tina regarding Betty's production), and
- test questions. (Although there were no specific therapy activities related to test questions, their use was raised as an unhelpful behaviour that is untypical of peer conversations and has the potential to make Betty's difficulties more visible.)

No other targets were addressed, but there was discussion of the behaviours that had been identified as potentially beneficial (described above). There was also some discussion about the relative helpfulness of different repair behaviours, with guessing and paraphrasing described as most helpful, compared to open class repairs which were described as least helpful. Betty's behaviours that were helpful included her use of spelling words aloud and finger or air writing while attempting to produce the target. Also Betty's willingness to produce an approximation to the target even when she knew it was not correct, e.g. in the form of "X not X" formulations (e.g. extract 5.3, lines 061-062: "span no not span Steve") and her use of environmental cues was discussed. In place of pedagogic behaviours that had the potential to highlight Betty's aphasia, it was recommended that Tina should either give the word, or the couple should let pass incorrect productions provided that the meaning was clear so that progressivity of the conversation was not delayed. Tina observed that some of her behaviours regarding withholding words and engaging in CPSs were the result of having been told not to speak for her daughter when she had had speech and language therapy, and that, consequently she had carried this belief over into her

interactions with Betty. It was suggested that instead of delaying their conversations to engage in CPSs, they note any words that were problematic for Betty, with the option to practise them outside their conversations, if they chose to do so.

Therapy activities included watching video clips of the CPSs from the pre-therapy data and reflecting on what motivated them and how each person felt while they were engaging in them. Because both Betty and Tina felt that production practice had been beneficial for Betty in the past, it was considered important to provide some education around the inconsistent nature of aphasia, including particularly the variability of Betty's phonological difficulties. During one therapy session Betty said that she would prefer Tina to give her the word, if she could. However, Tina said "*I think sometimes it's good for me not to say it if it's something she's going to have to get to say quite often*". In terms of helping Betty to be more independent, Tina said: "*if I just say it ... she just lets me say it*", which could prevent Betty from "learning" it for the future.

The clinician had conversations with Betty in which she modelled giving the word (if she could) and letting pass phonological difficulties provided she understood Betty's meaning. Tina observed these conversations and afterwards the couple reflected on how they differed from the conversations in which they suspended their talk to practice production. Tina continued to have reservations about the appropriateness of stopping the 'online' practice sequences and wanted to discuss this during the sessions. When the couple practised avoiding CPSs during conversations between sessions, and instead noting problematic words to practise 'offline' if they wished, they reported that they did not engage in practice after the conversation, because they realised that this was not important provided Betty had successfully conveyed her meaning. This was despite, at times, lengthy lists of words that Betty had found difficult. For example, after one practice conversation, the list comprised "skirt", "slippers", "tears", "gravy", "water", "bacon", "supanet" and "jug" (some of which Betty had struggled to produce on more than one occasion during one conversation).

5.1.5. Post-therapy analysis of pedagogic behaviours

Post-therapy, Betty and Tina video-recorded 154 minutes of conversation, over 21 of which were transcribed and analysed. Within the transcribed sections, there were no instances of CPSs initiated by either Betty or Tina, compared to four in the pre-

therapy transcripts. When Betty experienced phonological difficulties and engaged in self-repair, Tina typically guessed the word and Betty either confirmed or rejected it. If she confirmed Tina's guess, Betty often repeated the word and the talk moved on. At times, Betty made phonological errors, but did not attempt to self-repair. When this happened, Tina let pass the potential trouble source, either by allowing Betty to continue her turn or by taking a turn herself that moved the talk on. In the post-therapy data there were no instances of Betty asking Tina to model the word in the way that she did in extract 5.1, line 118, (page 78) when she said "say it again san-".

Across the 154 minutes of post-therapy data, there were 28 environments of possible occurrence, i.e. opportunities for a CPS due to Betty experiencing phonological difficulties producing a word. On none of these occasions did either Betty or Tina initiate a CPS.

	Sound related errors in Betty's talk	Sound related errors that result in CPSs	Sound related errors that result in monitoring (i.e. comment such as "that's right") by Tina	Tina's test questions
Pre-therapy	19	4	7	2
Post-therapy	9	0	0	0
Maintenance	13	0	0	0

Table 5.1: Pedagogic behaviours by Betty and Tina

Three examples of environments of possible occurrence in the transcribed sections of the post-therapy data are given below. In these extracts, Betty displays difficulty with the phonological production of a particular word, but the couple do not initiate a CPS. In extract 5.4, Betty and Tina are talking about going out for a drink.

Extract 5.4: B_1_2

166 T The ↑la:ger, (.) that was goo::d,
167 B .HHHH (.) °la::ge-° and Gui:nness ↑o::h I
168 liked the Guinness that was beautiful (.) I
169 just wanted ha:l f a (0.4) Guinness. (.) O::h
170 (0.4) and I've waited (.) for (0.4) mo:nths
171 (0.4) 'cause tha::ts, (.) [()]
172 T [You] ha:d the
173 Guinness befo:::re,
174 (.)
175 B-> Yeah but the sto::rk [(I was)]
176 T [Oh was] it at that
177 (good) o::ne was it a good one that o:ne=
178 B =No: no: I want to go the: (.) I'd like to go
179 back to the pa::y, (0.6) °the° (.) (mai::l)
180 T Ah is it, (.) the I:sle of Ma:n
181 B No no [wait] let me think (.) Royal=
182 T [No]
183 B-> Mai:l (.) they come the po:st offi::ce, (.)
184 -> and the tot- to:ts, stoke sto:rk, sch-
185 -> it's called stork
186 T Rig::ght
187 B .hhh and I was just keep thinking if I'm w-
188 going ou::t,
189 T Yeah,
190 B I keep thin- I'd love a:: (.) ↑Guinness,

Betty's turn at line 175 includes "the stork", but is ambiguous at the point Tina begins to talk in overlap to check Betty's meaning. The talk continues to be problematic and at line 184 Betty makes three attempts before she produces "stork" on her fourth attempt. She tries to repeat this, but makes an error and redoes her turn at line 185 "it's called stork". Betty seems satisfied with her self-repair and Tina does nothing to indicate that the problem still needs to be attended to, so the talk moves on with no practice sequence.

In extract 5.5, the topic is a possible trip to London and they are discussing the variability in train fares.

Extract 5.5: B_2_2

152 T Yeah (.) it's just depe::nds on how
153 much the trai::n is
154 B Yea::h cos-
155 T You know ↑that can co::me (.) we've
156 'ad it really chea:p and on the trai:n and
157 it's cost us seventy quid for [all of] u:s

158 B [Yea::h]
 159 B Yeah I kno::w
 160 T But then if ↑Ali just does i:t just on
 161 a whi:m (0.4) you know she just co:mes
 162 [()]
 163 B [VERY] expensive
 164 T [Yea::h]
 165 B [Yea::h] I kno::w I kno::w but you s-
 166 T (So::) if you pre-book i:t we:ll
 167 [in adva:nce yeah] [(then that's)] good,
 168 B [PRE-box] [yeah]
 169 T .hh but she's wo::rking anywa:y
 170 Ali when she comes ho:me in the six wee:ks

At line 168 Betty is agreeing with Tina's prior comment about pre-booking, but makes a phonological error saying "pre-box" instead of "pre-book". Neither Betty nor Tina treat this as problematic and the talk moves on. Arguably, because Betty is talking in overlap when she makes this phonological error, Tina may simply not have heard it and Betty may not have monitored her talk sufficiently. However, it is a potential opportunity for a CPS, but this does not occur.

In extract 5.6, Betty is telling Tina about a coffee machine.

Extract 5.6: B_3_2

030 B ↑Yeah so it was ↑thi::s, (0.8) a::nd er
 031 I ↑bou:ght I bou:ght I bou:ght a proper, (.)
 032 .hh I bou:ght a proper (0.6) coffee:: (.)
 033 -> machi::ne .hhh with the:: (1.0) pixie::, (0.8)
 034 -> pixie:: (0.4) °pixie:° (.) ne::st (.)
 035 -> ne::s (some-) ne::sgo:: (>something<)
 036 -> ne:s ne:sgo:: (.) ne:st (.) netto::s bu-
 037 -> yeah .hhh you bu::y lo:ts of sma::ll (0.4)
 038 -> po::ts (0.6) no po:ts (.) [diff,]
 039 T-> [Pods?] (.) a:ll
 040 different flavou:rs
 041 B Different ↑colou::rs, (.) [yea:h]
 042 T [Yeah]
 043 (0.4)
 044 B Yea:h so you bu::y (.) you have to bu::y
 045 Yeah
 046 T Yeah
 047 B And the:n
 048 T Are ↑you getting o:ne,
 049 B I got si- (.) I've ↑already go i:t,
 050 T Have you got i::t? Have you just got i::t?
 051 B ↑Yea::h,
 052 (0.4)
 053 T [Have you::]
 054 B [On Monda:y] (0.4) and it was o:ne three

055 ni:ne, (.) but it's wi:th er (0.4) I've
056 -> got, (1.0) I've ↑bou:ght, (.) extra,
057 -> (0.4)
058 T-> Po:ds,
059 B-> The po::ds [yeah]
060 T [Well why] have you not ↑got
061 it (.) goi:ng
062 B Well it's upstairs it's mi::ne and I'm
063 hi:di:ng i:t,

She begins to have trouble at line 033-034, when she says "pixie::, (0.8) pixie:: (0.4) °pixie:° (.)" then "ne::st (.) ne::s (some-) ne::sgo:: (>something<) ne:s ne:sgo:: (.) ne:st (.) netto::s bu-yeah .hhh you bu::y lo:ts of sma::ll (0.4) po::ts (0.6) no po:ts (.) [diff,]". At this point, Tina begins to make a guess as to the target, coming in in overlap (line 039) with "Pods?" and after a micropause adding "all different flavours". Betty confirms this in line 041 when she says "different colours (.) yeah". After Tina's overlapping minimal turn (line 042) Betty goes on with no production practice. However, Betty appears to have trouble retrieving the word "pods" again at line 056, and after a 0.4 second gap, Tina gives her the word. Betty confirms it, saying "the pods yeah", and Tina moves the talk on (line 061). This is another opportunity for a CPS, which the couple could have perceived as particularly warranted on account of the fact that the same word proved problematic on two occasions.

Extract 5.7 occurs later in the same conversation and the topic is still the coffee machine.

Extract 5.7: B_3_2

165 B Yea:h so:: e::r (0.6) a:nd e:r (0.6) so ↑yeah
166 ↑↑it's funny ↑yeah it's good mo:ney
167 I ↑thought it's good ↑stuff, (.) so I bought,
168 -> (.) extra: the po:ps
169 T Yeah
170 (.)
171 B-> The ku- (.) C A P:
172 T Yeah
173 B (A:pp) or whatever it is (.) [yeah]
174 T [Yeah]
175 (0.4)
176 B [Yeah]
177 T [↑Oh,] °goo:d° (.) I'll ↑ave a try:
178 anyway

Betty has difficulties with "pods" again in line 168, when she says "po:ps" rather than pods. Tina lets this pass with a minimal turn "yeah", and Betty goes on to have more trouble when she cannot produce the target word (possibly cappuccino) at line 171 after producing the first syllable and spelling the first 3 letters. Tina lets this pass with another "yeah", but Betty attempts to self repair in line 173, saying "a:pp or whatever it is (.) yeah". Tina either does not know the target and so cannot give the word or is choosing to let it pass when she moves the topic on in her next turn at (line 177-178), saying "Oh, °goo:d° (.) I'll 1've a try: anyway".

In the post-therapy phase Betty and Tina were interviewed about their experience of the therapy. When asked if she felt that her role had changed in terms of how she helped Betty, Tina said: "*Yeah I think I help her less coz I do think she's improved with her confidence a lot ... its confidence that's made it a lot better, she's accepted the situation a lot better now she's getting on with it herself*". She also commented on how her expectations of Betty had changed, saying: "*there'll always be days when she'll forget words whatever so yeah I would say that's improved because I've accepted that she's not always going to get it right*". And that: "*we've just to accept that and that's the way Betty is now ... And me correcting her is not really going to make a difference and as long as we both know that's fine and we're moving on ... But I just think Betty has accepted it ... she's accepted this is the way now, 'this is the way I am now and I've got to get on with it' ... I think she's come more to accept it, it really doesn't matter you know ...*". Betty said that although she felt she was: "*talking better myself*", she said: "*it's still very very hard*".

Betty and Tina video-recorded 131 minutes of conversation at the three month maintenance stage, of which over 22 were transcribed. There were no CPSs in the transcribed data. As with the post-therapy data, there were occasions when Betty had phonological difficulties and Tina guessed them when she could, or let them pass by moving the talk on when she could not guess. On one occasion Tina's turn took the form of an other-initiated other-repair, but this was designed in such a way as to give the impression that Tina was checking rather than correcting Betty. The occasion occurred when Betty said: "*yeah so I've got my name and my (.) <passport>*" and Tina responded saying "*Pass password isn't it email*". Betty responded by saying "*yeah or email yeah it'll be good*", and the talk progressed with neither treating Tina's other-initiation of repair as initiating a CPS.

The couple completed the CAT-DP (Swinburn, et al., 2005) post-therapy. Betty's self-reported disability t-score increase from 37 pre-therapy to 51 post-therapy, just above the mean for people with aphasia of 50 (SD = 10). Pre-therapy, Tina's t-score for Betty increased from 46 to 49 post-therapy.

5.2. Brian and Ingrid

5.2.1. Background

Brian, aged 80, was one year post stroke when he and his wife, Ingrid (aged 81), joined the study. Brian presented with a moderately severe fluent aphasia and some comprehension difficulties, as shown on the BDAE profile (Goodglass, et al., 2001) (see Figure 5.2). His speech was produced with normal intonation, but was often empty and contained word finding problems, paraphasias, neologisms, and perseveration. Brian displayed some auditory comprehension difficulties that were more severe at the level of sentences and paragraphs than single words. Assessment of his word retrieval skills via picture-naming indicated that he was the fifth most impaired participant in this case series, with a score of 35 out of 60 on the BNT (Kaplan, et al., 1983). Brian scored 47 out of 52 on the Pyramids and Palm Trees (3-pictures: Howard & Patterson, 1992) which was below the cut off of 49 for normal performance and was the lowest score of the case series (scored by four of the eight participants) and indicated some semantic difficulties. Brian's results on the cognitive assessments indicated cognitive strengths and difficulties. For example, on the Brixton Spatial Anticipation Test (Burgess & Shallice, 1997), his score resulted in a classification of "low average", however his scores on the immediate and delayed recall subtests of the RCF (Meyers & Meyers, 1995) were both above the 99th percentile, indicating that visuo-spatial memory was a relative strength. The couple's self-reported perception of Brian's aphasia was obtained using the CAT-DP (Swinburn, et al., 2005). Brian and Ingrid both scored Brian's communication disability close to the average for people with aphasia (i.e. mean = 50, SD = 10). Brian's t-score was 53, compared to Ingrid's slightly higher t-score of 55, indicating similar perceptions of the impact of Brian's aphasia. The couple's interview data indicated that they were aware of the impact of Brian's difficulties on their conversations. When Brian was asked whether, when he was experiencing word finding difficulties, he preferred Ingrid to guess the word if she

could, or leave him to self-repair, he indicated that he preferred Ingrid to guess. Asked if Ingrid did things that helped him communicate, he indicated that it often took him some time to express himself after which Ingrid tended to understand his meaning: *“Well its er, with Ingrid, she says ‘yes’ and I don’t know what she’s doing and then she says ‘oh I’ve got it now’ and then it’ll be another 5 minutes.”* When Ingrid was asked what she had found helpful, she commented that she had been told *not* to guess when Brian was searching for a word, expressing a belief that guessing was not in Brian's best interests. For example, at one point she said: *“I don’t want him to say a sentence and me put that word in for him. It’s not helping him”* and *“it’s no good me saying ‘do you want the news, do you want the football’ it’s no good me putting words in his mouth, he’s not saying them”*. Ingrid said she was keen to assist Brian, but she seemed unsure of how to do this. When asked if the way they talked had changed since Brian’s stroke, Ingrid said *“yes, since his stroke it’s like going to school again, teaching him.”*

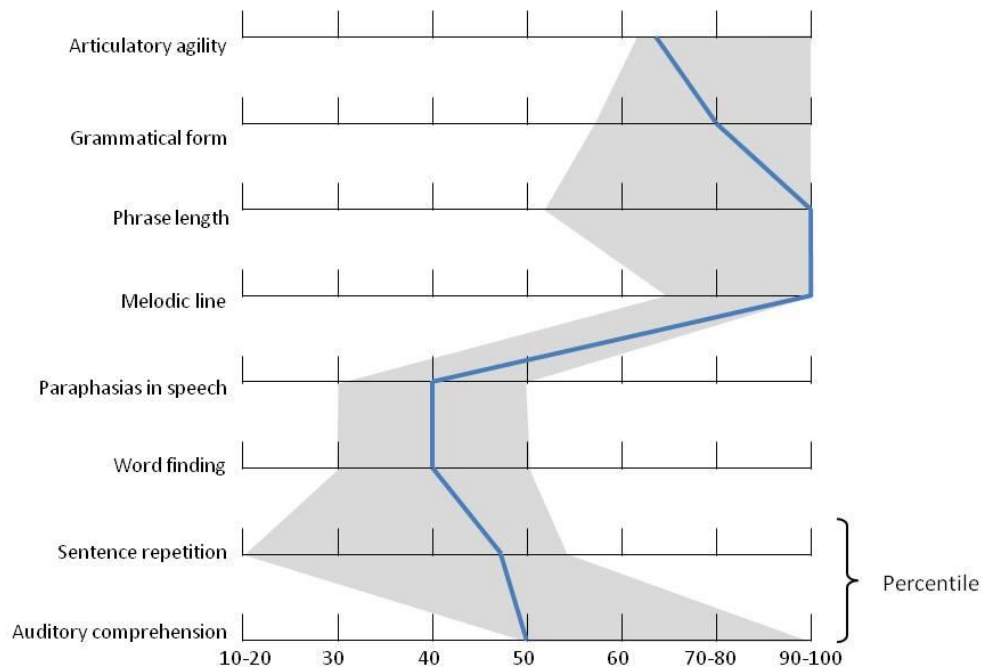


Figure 5.2: Brian's BDAE profile

The couple video-recorded over 98 minutes of conversational data in the baseline phase. Four extracts, comprising just over 21 minutes, were transcribed and analysed according to CA protocols (Section 2.4.2). The analysis revealed a number of behaviours that appeared to represent adaptations to managing Brian's aphasic difficulties in conversation. Ingrid's noticeable behaviours included lack of collaboration in repair activities with evidence of a pattern of behaviours that resembled a language 'coach'. When this was discussed with her, she displayed evidence that she understood the coach-like role she had adopted by the comments she made while reviewing excerpts of the video data. For example, on one occasion she observed: *"I'm trying to MAKE him tell me"*. There was also evidence of Ingrid using test questions and topicalising Brian's aphasic difficulties, for example after he made a metalinguistic (or metacognitive) comment. Brian's behaviours included displays of frustration when he was unable to express himself. The couple rarely displayed behaviour that conformed to the principle of least collaborative effort (Milroy & Perkins, 1992) which is based on the concept of conversation as a collaborative enterprise. The more effort that a speaker makes in initiating and presenting a turn, the less effort is required for that turn to be accepted by the listener. For Brian and Ingrid, Brian's linguistic impairments meant that he needed to do more collaborative work with Ingrid in order for her to accept his utterance. However, less collaborative effort would be necessary overall if Ingrid contributed to the repair work. The following sections comprise a description of behavioural patterns identified by CA, the interaction-focused therapy that addressed these patterns and the post-therapy analysis of these behaviours.

5.2.2. Pre-therapy analysis of lack of collaboration by Ingrid

One pattern of behaviour was Ingrid's tendency to resist collaborating with Brian when he did a self-initiation of repair and began a word search. She did this by either avoiding collaborating and instead urged Brian to "try", or delaying collaboration (potentially because she believed that she should not "put words in his mouth"). She also tended to topicalise his aphasic difficulties, and sometimes used open class repair initiators, which provided Brian with no assistance in repairing his difficulty. These methods of avoiding or delaying collaboration in repair work resulted in a style of interaction that resembled a 'language coach' rather than a partner, and left all the responsibility to complete the repair with Brian. It was felt that extending the

range of collaborative behaviours that Ingrid could use when Brian's talk was problematic would be a valid target for therapy because this could enable repairs to be resolved more quickly, and, in turn, reduce Brian's frustration with his difficulties, and the likelihood of aphasia becoming the topic of conversation.

The following extracts illustrate the type of uncollaborative behaviours that Ingrid displayed pre-therapy data when Brian's talk was problematic. In extract 5.8 Ingrid does an uncollaborative turn after Brian has engaged in a word search.

Extract 5.8: A_4_2

001 B No ↓ah what's the chap? (1.4) (mm) (0.3)
 002 [(6.9)]
 003 B [((waving hand))]
 004 B (Is is) (0.4) (is) (1.8) (d-) ((glances at I))
 005 (0.8)
 006 I-> Just try.
 007 (2.3)
 008 B ↑M: (0.2) me- me- me- no ↓no
 009 (0.6)
 010 I Memory?
 011 (0.3)
 012 B Noo. (.) no no. (0.3) It's (1.8) ↑Har↓old (.)
 013 Harold.
 014 (0.3)
 015 I Harold?=
 016 B =And ↑Ma↓ggy
 017 (0.4)
 018 I Yes.=

In the extract above, the couple is talking about some friends and Brian asks Ingrid, explicitly "what's the chap?" at line 001 and glances at her, potentially to recruit her help (line 004). Rather than offering a guess, after a pause of 0.8 seconds, Ingrid says "just try". This is uncollaborative behaviour that leaves Brian doing the repair work himself. On this occasion, he is successful and he completes the repair when he produces the name "Harold" at line 012.

In extract 5.9 there is another example of Brian engaging in a word search, beginning with his metalinguistic comment "oh I ↑can't get that out^o" at line 062 accompanied by a display of frustration when he bangs his hand on the arm of his chair (line 064).

Extract 5.9: A_3_2

059 B Har- Harold. (0.7) Maggy. (0.3) And
 060 we was ↑talk↓in about (1.4) ↑what ↓this (.)
 061 (sh- sh- sh- sh- sh-) (1.1) going. (1.6) about
 062 the. (4.7) °oh I ↑can't get that out°
 063 [(0.8)]
 064 B [((bangs hand on chair))]
 065 B °()°
 066 (0.8)
 067 B I [can't]
 068 I [Try.]
 069 B Got ↓so (0.2) [↑stupid]
 070 I [Just (0.4)] [calm down a minute]
 071 [(hand motion down)]
 072 and try.
 073 (0.5)
 074 B ↑(But) [it's ↑stupid.]
 075 I [You're talking about Harold] and Maggy.
 076 B Yes. (And) ↑talking about (1.1) It's the. What
 077 was I ↑talkin ↓about then
 078 (1.1)
 079 B () (0.2) was just ↑sayin (0.3) (in that)
 080 (3.1)
 081 I Were you talking about the ↑wedding ↓Brian
 082 B ↑No [↓no] ↓no I'm just ↑talking about Maggy.
 083 I [No.]
 084 (0.7)
 085 B (I- I- I- I- I-)
 086 (1.0)
 087 I Ellen?=
 088 B =I'm
 089 (0.8)
 090 I No?
 091 (3.0)
 092 B The ↑Maggy ↓and (1.8) and ↑Har↓old=
 093 I =Yeah.
 094 B And was s- s- (0.7) just ↑talkin ↓about what
 095 (they) was going to (0.7) s- s- ↑say ↓about
 096 what they was going to ↑speak (0.5) to you and.
 097 (1.2) [↑Mary] about the
 098 I [You.]
 099 (1.7)
 100 B [the (1.5) ↑lett↓ers] (0.4)
 101 [((motioning like writing with hand))]
 102 [you got in the (↑Maggy ma- ma- [maggys])
 103 [((motioning backward))]
 104 I [Oh the]
 105 ↑letters ↓we had.=
 106 B =To[↑day] ↓yes
 107 I [Yes.]
 108 I Yeah.
 109 (0.5)

In this extract, rather than collaborate, Ingrid urges Brian to attempt to self-repair telling him to "try" (line 068) and then to "just calm down a minute and try" (lines 070-071). This example runs off differently to extract 4.8, in that after urging him to go on with his self-repair efforts, Ingrid does begin to collaborate by suggesting the topic that she thinks Brian may be talking about (i.e. "the wedding" (line 081), and then suggesting the names of people that she thinks he may be searching for. However, it is not until Brian finds the word "letters" (line 100), which he does unaided by Ingrid's guesses, that the repair is resolved.

In extract 5.10, Brian is talking about the fact that it was good to get out of the house the previous day (lines 181-182), but runs into difficulty at lines 190-192.

Extract 5.10: A_2_2

180 B ((clears throat))
 181 I ↑know ↓but it was ↑something ↓to get ↑out ↓of
 182 the place.
 183 (1.3)
 184 B Wasn't it?
 185 I You mean to get out [of the house.]
 186 B [It ↑was] yes.
 187 (0.3)
 188 I Yes. (0.4) Yeah.
 189 (1.2)
 190 B Didn't want to be. (0.9) you know. (1.3)
 191 (getting ↑bullied) w- you know. (2.4) I can't
 192 get (stop) there (0.2) How does it get=
 193 I-> =No good what.
 194 B I don't know how it gets (0.3) °how° (0.4) °how
 195 does it° (0.7) °how does it° (0.8) I can't get
 196 it out so that (.) I ca-
 197 (0.6)
 198 I-> You can't say it
 199 B I can't get it (0.9) no I ↑can't (0.2) no
 200 ↑that's ↓right ↑I can't
 201 (1.0)
 202 I-> You can't [say it.]
 203 B [No] I can't () no.
 204 I-> But what was it about?
 205 (0.9)
 206 B It was ↑just (1.5) just going into the (1.3)
 207 -> What was it the ↓ah (2.5)
 208 ((makes whistling sound))
 209 (1.7)
 210 B I can't n- I can't ↑name that s: (0.8) s::=
 211 I-> =<Can't think of it.>
 212 (1.2)
 213 B-> What was the ↑name of the place ↓Ingrid
 214 (2.2)
 215 I-> Where?
 216 (1.2)

217 I-> When were you talking about
 218 (3.0)
 219 B Yester↑day
 220 (0.5)
 221 I-> We went to the village.
 222 B Yeah but what was the name of the (0.5)
 223 [place]
 224 I-> [The shop?]
 225 (0.5)
 226 B Sh- Yeah what was the name of the shop
 227 (sp[:]
 228 I [Rite]way
 229 (0.3)
 230 B Oh ↑Rite↓way [yes that's it.]
 231 I [That's right?]
 232 B ↑Yes
 233 (0.6)
 234 I Riteway
 235 B Yes
 236 (1.1)
 237 B (I was) just ↑thinking ↓of (0.3) ↑Rite↓way
 238 (1.1)
 239 I °Yeah° it's Riteway. Newisbury ↑Squ↓are

Here he appears to be searching for a word when he says "I can't get (stop) there (.0.2) how does it get", where his "how does it get" sounds like a request for help. Ingrid's turn at line 193 is uncollaborative so Brian makes another attempt at lines 194-196, ending with "I can't get it out so that (.) I ca-" (lines 195-196). Ingrid paraphrases Brian's metalinguistic comment about the difficulty he is having expressing himself, and the topic shifts to his linguistic difficulties. Ingrid attempts to re-establish the original topic at line 204 by asking Brian what he was talking about. He attempts to explain and appears to be searching for a word again at line 207 when he says "what was it that ↓ah", apparently inviting Ingrid to assist. At this point, Ingrid could, potentially, collaborate, but does not do so. Brian begins another turn at line 210, again with a metalinguistic comment about the trouble he is having, to which, again, Ingrid could, potentially begin to collaborate, but instead topicalises Brian's difficulty. At line 213 Brian explicitly asks: "what was the name of the place Ingrid?". After two turns from Ingrid (lines 215 and 217), that appear to be her checking what Brian is talking about she finally begins to collaborate by saying "we went to the village" (line 221). Brian produces a more specific request for help at line 222 and Ingrid checks that he means "the shop" (line 224) before finally giving the target word at line 234 and completing the repair sequence. It is difficult to be

certain at what point in this extract Ingrid could have guessed the target word, but her choice of turn design at lines 193, 198, 202, 204 and 211 are all uncollaborative and do not assist Brian to find the name that he is searching for.

5.2.3. Therapy targeting Ingrid's lack of collaboration

One goal for the interaction-focused therapy for Brian and Ingrid was to introduce alternative behaviours that Ingrid could use in order to be more collaborative in dealing with trouble-sources that occurred when Brian had word finding problems. It was expected that by introducing different methods, Ingrid would use fewer open class repairs and turns such as "try" to encourage Brian to self-repair. Initially, therapy focused on exploring Ingrid's attitude to Brian's aphasia and her reasons for withholding collaboration. Video clips from the couple's data were used to illustrate more and less successful repair sequences. Optional behaviours were suggested for Ingrid to try when Brian's talk was problematic. These were:

- a) to guess the target if she could; to use continuers/passing turns (e.g. "mmm" and "uhuh") while waiting to see if Brian's meaning would become clear as his turn continued; and
- b) to consider abandoning problematic talk if the repair activities were proving difficult with the option to return to it at a later point.

These options were explored by encouraging Ingrid to suggest alternative behaviours that she could have tried, in place of the non-collaborative behaviours that were displayed on the videos. She was able to do this successfully, for example, on one occasion she observed "*I could have left it*", and on another she suggested that she could have changed the subject. The recommended behaviours were then modelled by the clinician during therapy conversations with Brian, after which Ingrid practised the behaviours herself during conversations with Brian, while the clinician provided online coaching. Ingrid was encouraged *not* to worry if Brian's production was not quite right, provided that she understood his meaning. Handouts C4, C5 C6, C7, C9 and C10 from SPPARC (Lock, et al., 2001) were used to support the discussions and as reminders for the couple to use during their practise conversations between sessions. To alleviate some of Ingrid's concerns that by helping Brian she would inhibit his recovery, there was some education about the chronic and variable nature of aphasia and how, even if Brian could retrieve a word at one point, he would not necessarily be able to retrieve the same word minutes

later. This was important for Ingrid, as she seemed to believe that once Brian had displayed that he could produce a word, he would be able to do so in the future whenever the word was relevant. Ingrid's lack of collaboration in repair activities and her tendency to encourage Brian to go on with self-repair attempts by her use of “try” or “try again”, was explored in terms of how it kept Brian’s aphasic difficulties in the spotlight, and how this may have added to his frustration.

5.2.4. Post-therapy analysis of collaboration

The couple video recorded over 90 minutes of conversational data immediately post-therapy. It was expected that analysis of this data would reveal evidence that Ingrid was no longer avoiding or delaying collaborating with Brian when his talk was problematic, but was beginning to collaborate promptly, for example by guessing his meaning. There were 21 environments of possible occurrence in the post-therapy transcripts, where Brian's talk was problematic and where Ingrid could have avoided or delayed collaborating, or begun to collaborate immediately that it was evident Brian was having difficulty. Of these 21 instances, Ingrid began to collaborate with the repair activity as soon as it was apparent that Brian was unable to express his meaning on 20 occasions, mostly by guessing the target word, doing a sentence completion, or paraphrasing what she thought Brian wanted to say.

	Brian engages in a word search and Ingrid responds by avoiding or delaying collaborating in the repair activity	Brian engages in a word search and Ingrid responds promptly by collaborating in the repair activity
Pre	10	2
Post	1	20
Maintenance	1	9

Table 5.2: Ingrid’s behaviours when Brian does a word search

In extract 5.11 Ingrid's post-therapy collaborative repair behaviours are displayed.

Extract 5.11: B_1_2

029 B °Yeah° (0.4) what I did get in the end we got
030 th- the re- (0.4) >all the< (0.4) >(glass)
031 and everythin-< er all the,
032 (0.4)
033 I-> Radiato:rs
034 B Radiators (it was ↑great,) (0.4) because
035 we put in the, (.) the (.) windo- uh the,
036 (0.4)
037 I-> Pi:pes and that

The couple is reminiscing about some work that was carried out on their home many years before and Brian displays some word finding difficulties (lines 029-031). After a 0.4 second gap Ingrid guesses “radiators” (line 033) and Brian incorporates this into his next turn, but runs into difficulty again and does a self-initiation of repair (line 035) cutting off the word 'window' and restarting with “uh the,”. Again after 0.4 seconds, Ingrid guesses “pipes and that”. In both cases, Ingrid’s behaviour is collaborative, and her guesses allow Brian to continue his turn with minimum delay and minimum focus on his aphasia.

There is a similar example in extract 5.12.

Extract 5.12: B_2_2

207 B An-, (1.0) Ander (.) Andera no Anda- Andra-
208 I-> Andover,
209 B ANDOVER: (.) Ando[v-]
210 I [An]dover
211 B Bu:t it's just on the:, (.) it's just on
212 the:,
213 (.)
214 I-> It's on the border isn't it
215 B yeah
216 I °yeah°

The couple has been talking about a holiday and Brian is trying to name a place that they visited. He produces the first part of the name, but displays difficulty producing the full name (line 207). Ingrid says the word (line 208), and Brian practises it once then begins a comment in line 211. He runs into word finding problems again and after a micropause, Ingrid comes in with what appears to be a guess as to Brian's meaning (line 214), which enables the conversation to progress.

In extract 5.13 Ingrid again collaborates in the repair activity by guessing what she thinks Brian means.

Extract 5.13: B_3_2

006 (0.4)
007 B I haven't got anything up the:re Ingr- I
008 ↑ca:n- I haven't got anything t- (0.6)
009 all we wou- (.) go rou:nd the (0.4) a:ll
010 all the (1.8) °°s-°°
011 I-> Hoeing
012 B Y- the, (0.8)
013 I-> (It's the) lawn
014 B The la::wns and the::,
015 (2.8)
016 B >And the< then >having to< (0.8) oh what was
017 in the,
018 (0.4)
019 I-> Are you ra:king?
020 B R- (.) raking yeah raking [>and all the,<]
021 I-> [Raking]
022 B Co- e:r all the ways where we went round the::,
023 (0.4) with the, (0.4) br- bro- bra::w ra::wl
024 r- uh (.) .tch °oh (gosh)°
025 I-> With the wha::t,
026 B Ro- (.) (↑hand seeder,) (.) la::wns
027 (.)
028 I Yeah
029 B A:nd it was also (.) ↑when the,
030 (1.6)
031 I-> The ↑apple tree,
032 B No It's no It's tra- a:ll the apple:s
033 [(>was already<)] on the on the: (.) floo::r
034 I [O:::h]
035 I Oh,
036 B Yeah
037 I-> Are they dropping?
038 B I had to ↑ge::t it all ↑off, (.) or it's,
039 I [Oh]
040 B [You] know it was all on
041 I °>didn't know<°
042 B The floo::r=
043 I =Little o:nes,
044 B Yea:h (.) I 'ad to get them a:ll out I had to
045 get them out and put them in the::, (.) bin
046 I-> Oh did you put them in the bin
047 B YES went in yesterda::y,
048 (.)

Ingrid has asked Brian what he plans to do in the garden and his turn in lines 007-010 is problematic. She provides the word that she thinks he wants, i.e. “hoeing” (line 011), but it appears from Brian’s next turn, that this was not the target and Ingrid does another guess “(it's the) lawn” (line 013). Brian incorporates “lawn” into his next turn, but displays further word finding difficulties. After a pause of 2.8 seconds, he does a self-initiation of repair (line 016-017), and verbally invites

Ingrid's help with “oh what was in the,”. Ingrid checks “are you raking?”, but this does not complete the repair and the couple continue collaborating with Ingrid repeating "raking" (line 021) then displaying that she is having difficulty following Brian's talk when she says “with the wha:t” (line 025). She continues collaborating with more guesses: “the apple tree” (line 031) and “are they dropping” (line 037). At lines 044-045 Brian explains that he had to put them (the apples) in the bin and Ingrid displays receipt of this news with her “oh did you put them in the bin” which also acts to summarise what Brian has just told her. Although this is a relatively lengthy repair sequence, it illustrates Ingrid's use of collaborative behaviours to assist Brian when he has difficulties, rather than encouraging him to do the repair work himself, as she was doing pre-therapy.

In extract 5.14, Brian’s turn from line 124-128 is problematic and therefore an opportunity for Ingrid to other-initiate repair.

Extract 5.14: B_1_2

```

124 B      And >when he got his< (.) his (1.6) uh (.)
125        (thing's) been blo:wn (.) bl- blu- (0.6)
126        the (.) pitch was (1.6) insi::de the (.)
127        well it was ↑all (0.4) (I couldn't) ( )
128        (any of it)
129 I->    °No:°
130 B      (↑°It was hopeless°)
131 I      °No°
132 B      This bloke (who was oh) (you're going to have
133        to get this right) I said ↑no::, huh huh huh
134        (.) no way was I gonna (.) [( ) ] ( )
135 I->    [°Yeah°]
136        (0.4)
137 I->    (But the) ↑roof (on) is better
138 B      ( ) roof on
139 I      (Good) roof
140        (.)
141 B      °Yeah°
142 I      °Yeah°
143        (0.4)

```

In this extract Ingrid does a minimal turn in the form of a quiet “no” (line 129) and Brian goes on to make an assessment in line 130. In his next turn (line 132-134) Brian’s talk again appears problematic and potentially repairable, but again Ingrid responds with a minimal turn, this time “yeah” (line 135) and after a 0.4 second

pause, she moves the conversation on when she says “(But the) ↑roof (on) is better” (line 137).

Brian and Ingrid video-recorded over 100 minutes of conversational data at the maintenance stage, of which just under 21 minutes were transcribed. In the transcribed data there were ten environments of possible occurrence where Brian did a self-initiation of repair due to word finding problems. On nine of those occasions, Ingrid collaborated immediately by guessing the target or paraphrasing his meaning. On the tenth occasion, she told him to "try" after he had run into difficulty and said: "no::: I can't (.) can't° (.) ca:n't can't can't can't". This pattern was consistent across the untranscribed maintenance data, with Ingrid collaborating promptly when Brian displayed word finding difficulties, or doing passing turns and topic shifting turns, when she was unable to guess or help Brian to self-repair.

5.2.5. Pre-therapy analysis of pedagogic behaviours by Ingrid

Brian and Ingrid's data displayed pedagogic-type behaviours, but these were different to the pedagogic behaviours described and treated in previous reports (and described in relation to Betty and Tina in the case study above). Ingrid's use of "try" to encourage Brian to self-repair and her lack of collaboration were similar, but not directly comparable to more typical pedagogic behaviours such as CPSs.

Ingrid's pedagogic behaviours are evident in the next two extracts.

Extract 5.15: A_3_2

043 I [Well (0.2) can you] remember ↓now
 044 what you [were]
 045 B [(were)]
 046 I ↑going to talk about.
 047 (1.1)
 048 B I was: (0.5) I was: thinking it'd be nicer
 049 (0.2) uhm (1.0) ↑would have been ↓nicer w- w-
 050 when we was in (0.6) (you know) (1.1) Devon
 051 ↑uhm (0.2) ↓ [(doh) (2.6) what's (his) name ↓um]
 052 [(tapping hand on chair)]
 053 (3.5) [(what's he in)] uh uh (what's he in)
 054 [(waving hand)]
 055 [°uh uh°]
 056 I-> [Is it] ↑where we've just ↓been=
 057 B =Yes what's it (.) [what's it]
 058 I [(clears throat)]
 059 (0.7)
 060 I-> Llan? (0.7)

061 B Gllandover. Yeah.=
 062 I-> =Llan[dover. (0.3)] yeah.

In extract 5.15, there is an example of Ingrid responding to problematic talk by Brian with pedagogic behaviour in the form of prompting. In this example Brian produces a semantic paraphasia “Devon” (line 050) and immediately does a self-initiation of repair. Ingrid withholds the target word and at line 056 and asks a pedagogic question to which she knows the (likely) answer. At this point, Ingrid could have given the target word, but instead, she asks “is it where we’ve just been”, then clears her throat, and produces the first syllable of the target “Llan”, with rising intonation, apparently as a prompt to enable Brian to complete the repair himself. Brian incorporates this syllable into his next turn, but he makes a production error which Ingrid corrects in line 062.

In extract 5.16 there is another example of Ingrid's pedagogic behaviours.

Extract 5.16: A_3_2

089 I [And the] ↑weather was bad.
 090 (1.3)
 091 B It was bad for a while. (.) you know for say
 092 One (0.5) day (0.4) it was really bad.
 093 I And it rained the [first day.]
 094 B [It was] always rai-.
 095 (0.3) yes.
 096 (0.8)
 097 I First day it ↑did ↓rain
 098 B Yeah.
 099 I And the ↑second ↓day ↑nobody ↓went out (0.6)
 100 -> Because of the?
 101 [(1.4)]
 102 [((looks to B))]
 103 I-> What
 104 (0.8)
 105 B Who?
 106 (0.2)
 107 I-> Blowing.
 108 (0.2)
 109 I-> (Wh-)
 110 (0.4)
 111 I-> Because of the?
 112 B Oh (he's) (0.7) bow- (.) ↑blow[ing ↑yeah]
 113 I-> [<Winds.>]=
 114 B =Winds ↑yeah.=
 115 I =Winds.
 116 B (That's) blowing. ↑yeah=
 117 (0.4)
 118 I And no↑body went out
 119 B Was that on ↑(Mon)day or is that Suh- ↓uh

120 Ss[sss- Sunday]
 121 I [That's the day the] ↑flags all ripped.
 122 (0.4)

The couple has been talking about the bad weather that they had on a recent holiday and Ingrid begins an attempt to elicit the word "wind" in her turn at lines 099-100. She produces an incomplete sentence for Brian to complete, but he does not produce the target so she prompts him by saying "what" at line 103. She then does a semantic prompt at line 107, ("blowing") and a phonemic prompt at line 109. At line 111 Ingrid repeats the latter part of her original attempt to elicit the word "wind" and this time Brian responds by attempting to produce Ingrid's target word. The pedagogic behaviour in this sequence is unlike the interactive behaviour that would be expected in a conversation between peers and appears to provide evidence of her belief that since the onset of his aphasia her role has included reteaching him, as she stated in the interview.

5.2.6. Therapy targeting pedagogic behaviours

Ingrid's tendency to use pedagogic behaviours to elicit language from Brian was targeted because it is not typical of peer interactions, it highlights aphasia, and it could be confronting for Brian. The target behaviour was for Ingrid to drop her practices of

- a) attempting to elicit language from Brian; and
- b) cueing Brian to complete self-initiated repairs.

This was achieved by reviewing the extracts on the couple's video-recordings and reflecting on Ingrid's pedagogic behaviours, with a focus on how they affected Brian. Ingrid was encouraged to comment on the impact that these behaviours had on both her and Brian's conversations. In one discussion she commented, "I think it's better if I give him the word we can have more of a conversation than it rolls better", but then she reiterated her concern about speaking for Brian, by saying "everyone says don't finish the sentence for him". This was discussed at length, and the clinician attempted to reassure Ingrid that it would not be detrimental to Brian if she avoided pedagogic behaviours. The difference between having a conversation and doing therapy was also discussed with a focus on the need for couples to continue having conversations when one of them had aphasia, rather than treating interactions as a time to do therapy. These points were discussed in several therapy sessions and

Ingrid was asked to practise avoiding these behaviours. She was asked to make a note of any occasion when she did any kind of pedagogic behaviour (e.g. a language elicitation or a cueing task) and reflect on how this had effected the conversation.

As described in Section 5.2.3, Ingrid's concerns that by helping Brian she would inhibit his recovery, were discussed in the context of pedagogic behaviours as well as collaboration.

5.2.7. Post-therapy analysis of Ingrid's pedagogic behaviours

There were no instances of Ingrid using pedagogic behaviours in the post-therapy or maintenance data. This behaviour has been analysed in terms of environments of possible occurrence where the environment of possible occurrence has been defined as an opportunity for Ingrid to prompt or cue Brian to produce a target word.

	Pedagogic-type behaviours (e.g. prompting, cueing) by Ingrid
Pre-therapy	9
Post-therapy	0
Maintenance	0

Table 5.3: Pedagogic behaviours by Ingrid to prompt or cue target words

After the therapy phase, the couple was interviewed about their experience and whether or not they believed that it had resulted in any changes. Ingrid's comment was: *"oh it's better, much better. I'm carrying on with the therapy you gave me, giving him the words and leaving it when we can't repair, I'm still doing it"*. She gave an example: *"I found this morning that Amanda has asked me to go to Chester next week and Brian said 'oh when you're there I what can I say' and I said 'do you want something in Chester' he said 'yes' and I said 'is it clothes'. He said 'no no' and I said 'show me' and he showed me the tube for the shower in the bathroom 'cause its dripping. So it's trying to find a word and then it's me putting the word in and I find that great."* Ingrid also talked about Brian's response to the therapy and said: *"He thought about it a lot when you'd gone. He'd ask about it and I'd say: 'well we try to work it out and I put words in your mouth if I can guess to help you'."* Brian also seemed to indicate that he had found it useful. Talking of Ingrid, he

reported that “*she does know me I know she does something for me must be yes must be*”.

5.3. Sheila and Amanda

5.3.1. Background

Sheila (aged 69) was 15 years post onset she joined the study with her daughter, Amanda (age 45). Sheila presented with anomia, as evidenced by her BDAE (Goodglass, et al., 2001) profile (see Figure 5.3). She was the fourth most impaired of the eight participants in terms word retrieval skills, as evidenced by her score on the BNT (Kaplan, et al., 1983) of 30 out of 60. Her deficits manifested primarily in word finding problems which led her to engage in self-initiations of repair, she used a range of methods to support her word searches, including producing semantic paraphasias in an "X not X" formulation (e.g. "a hospital not a hospital": see extract 4.17, page 107), occasional phonological paraphasias and descriptions of the target word. Her repetition and comprehension were good. On the cognitive assessments, Sheila's scores indicated some strengths, for example on the RCPM (Raven, 1962) she scored above the 75th percentile (i.e. within normal limits). However, on the Brixton Spatial Anticipation Test (Burgess & Shallice, 1997), her score resulted in a classification of 'impaired'. On the CAT-DP (Swinburn, et al., 2005) both Sheila and Amanda scored Sheila as being less disabled than the average for people with aphasia. Sheila's t-score of 57 was the 2nd least impaired score of people with aphasia within this case series (mean t-score for people with aphasia is 50: SD = 10.) Amanda's t-score of 55 was similar to Sheila's and was the joint lowest score with one of the other eight partners in this case series.

When the couple was interviewed, Sheila described her frustration with word finding problems: “*I should have known it I'm just saying in my mind I should have known it but I couldn't get the word out*”. During the first therapy session she expanded on her frustration, telling her daughter “*you can't help, in that situation, you get up tight but afterwards when you go home I feel awful ... I can't help it*”. Sheila explained that she is more concerned about retrieving the word that she wants when talking to her daughter than with anyone else. She said “*I could talk to Jim (Amanda's husband) straightforwardly but with you I want to get it right wait a minute so I'm trying so hard I'm trying so hard for you but to other people I can do*”.

it because I want to be for him for her good". Amanda reported that she finds judging when to help repair Sheila's word finding problems difficult and that it depends on Sheila's mood, "sometimes she'll say to me tell me the word I'm looking for but then sometimes she says 'don't tell me!'". She added that if she misjudges and gives her mother the word when her mother doesn't want to be helped, this can cause distress: "If I say it, is she gonna get upset coz I've given it to her or if I don't say it is she gonna get upset because I'm making her struggle".

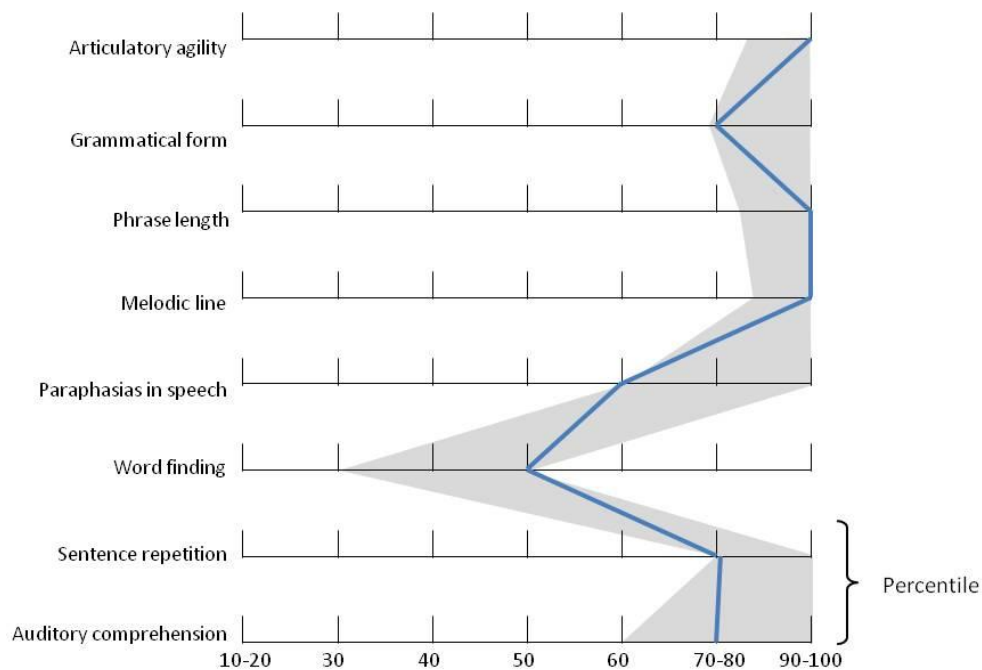


Figure 5.3: Sheila's baseline BDAE profile

5.3.2. Analysis of pre-therapy conversation data

Four excerpts of Sheila and Amanda's video recorded baseline conversations totalling just over 23 minutes were transcribed and analysed according to conversation analysis protocols (see Chapter 2, Section 2.4.2). The data displayed an inconsistent pattern in the way the couple managed repair, which related to the concerns that they reported in terms of Sheila's frustration when she felt that she could have completed a self-repair without any help from Amanda, and Amanda's anxiety about judging when to collaborate and when to wait. This was displayed when Sheila experienced a word finding difficulty and did a self-initiation of repair, but was not able to complete the repair quickly herself. When this occurred Amanda

sometimes collaborated, conforming to the principle of least collaborative effort (Milroy & Perkins, 1992) either by guessing the target, or encouraging Sheila to tell her more to enable her to guess, and sometimes Amanda waited, giving Sheila the opportunity to complete the repair herself. While engaged in word searches, Sheila tended to avert her gaze from Amanda, and did not make eye contact until she produced the target. The following extracts illustrate this behaviour.

Extract 5.17: A_1_2

```

059          (0.7)
060  S      ↑I didn't realise he was going for that (0.3)
061          ↑kayaking I thought he fwas ha ha (0.3) er a
062  ->     [↑super↓visor (0.9) uhm] [with ↑a (1.7) ] ↓o::h
063  ->     [((looks at A))          ] [((looks away))]
064          (1.0) [↑hospital. (0.5)] [not a hospital. (1.6)]
065  ->     [((looks at A))          ] [((looks away))          ]
066  S      [o:::h (1.0)                                     ]
067          [((claps hand once then rubs them together))]
068  A      ↑de↓scribe what you're [↑say↓ing]
069  S          [I am          ]
070          (0.2)
071  A      (kay)
072  S      uhm (0.6) er [(2.0)                               ] ↑tab↓lets
073          [((drops hands down))]
074          and (0.6) things like=
074  A      =first aid?
075  S->     [first aid! (0.3)] [yeah. ]
076  S->     [((looks at A)) ]
077  A          [right.]

```

In extract 5.17 Sheila is looking away until she says "supervisor" at line 062, simultaneously making eye contact with Amanda (line 063). However, "supervisor" appears not to be the target and after and 0.9 second pause and an "uhm", Sheila looks away again (line 063). She looks at Amanda as she says "hospital", but again this is not the target and she looks away (line 65) as she continues trying to self-repair. At line 074, while Sheila's gaze is averted, Amanda guesses the target ("first aid") and Sheila makes eye contact as she repeats it herself, in confirmation (lines 075 and 076).

In extract 5.18, Sheila does a self-initiation of repair when she begins to search for a name.

Extract 5.18: A_1_2

256 S uhm ↑my ↓Bryce (0.6) ↑uhm (0.2) he had to work
257 -> [so hard] (0.6) [because] of uhm
257 -> [((looks at A))] [((looks away))]
258 (1.2) ↑Nola and the ↑daugh↓ter
259 (0.5)
260 A ↑C[ar] ↓ol [wasn't she] yeah
261 S-> [((looks at A))]
262 S-> [uhm yes (0.2) yeah]
263 (0.4)

While searching for the name, Sheila simultaneously averts her gaze (line 257 and 258). Amanda begins to collaborate in the repair, by guessing the name, while Sheila is still looking away. Sheila looks at Amanda (line 261) immediately after she has begun to talk, before confirming Amanda's guess (line 262).

In extract 5.19 there is a relatively long repair sequence, beginning with Sheila's self-initiation of repair at line 092.

Extract 5.19: A_4_2

092 S-> I got those [(0.6) [↑crum↓pets]
093 S-> [((clears throat))] [((looks away))]
094 (0.8) and u:hm [(0.8) uhm (2.2)] with
095 S [((gesturing w/hands))]
096 sultanas in them
097 A-> eccles cakes?
098 (0.5)
099 S no (0.2) no
100 A-> ↑a::h () [↑is] [it a cake]
101 S [pa-] [((rubbing hands together))]
102 (0.4)
103 S [nop it's pa- ↑pass (0.3) ↓pastry (0.2) pastry]
104 S [((still rubbing hands together))]
105 A-> chorley cake?
106 (0.7)
107 S ↑no [(.)] ↓no no no
108 S [((holds hands up))]
109 (0.4)
110 A-> with sul↑tan↓as ↑in
111 S yeah (0.4) [it's ↑like]
112 A-> [↑o::↓h:] do you mean a (0.4) ↓a
113 -> no [a Danish] [↑sli-]
114 S [((holds hands out))] [((starts to point))]
115 A-> (0.2) [a Danish ↑whirl or something?]
116 S [↑no:: not about that] (0.4) [like]
117 S [((shaking her head))] [((holds hands out))]
118 S [(0.5)] [crumpets]

119 S [((clears throat))] [((holds hands out))]
120 (0.9)
121 A ↑O::↓H: [(0.5)]
122 S [((points to A))]
123 S-> [yeah! go on ha ha]
124 S-> [((looks at A))]
125 A-> you mean ↑like (0.2) ↓ah (0.4) they're like
126 -> ↑pan↓cakes [but they've got] (0.2)
127 S [↑yes! (0.2) yes it yes]
128 A currants in=
129 S =[sul↑tanās ↓in]
130 S [((looks away))]
131 (0.3)
132 A Yeah
133 (0.3)
134 S so I've had ↑that for me (0.2) me ↑tea (0.4
135 last night

In this extract, Sheila averts her gaze (line 093) as she says "crumpets" which turns out to be a semantic paraphasia. Amanda begins to guess at line 097, while Sheila's gaze is averted. She then does a clarification at line 100, more guesses and clarifications at lines 105, 110, 112-113 and 115, and finally guesses the target at line 125-126. Throughout this repair sequence, Sheila has kept her gaze averted and she does not look at Amanda until Amanda has done the turn at line 121, comprising "↑O::↓H:" which seems to project that she is about to say the target. Sheila responds by simultaneously looking at Amanda (line 124), and verbally inviting her to name the target by saying "Yeah! go on ha ha" (line 123). The repair is finally completed collaboratively in Amanda's turn at line 125-126 and 128, and Sheila's correction of "currants" to "sultanas" at line 129.

5.3.3. Therapy targeting eye gaze to manage collaboration in word searches

The interaction-focused therapy for Sheila and Amanda was based on a combination of the CA findings, and what the couple reported during the interview. Therapy goals were discussed and it was agreed to target using eye gaze to enable Sheila to stall or mobilise help from Amanda, and to enable Amanda to feel confident about when she should begin collaborating in a repair. This goal reflected the comments made by the couple regarding Sheila's frustration when she initiated a self-repair and Amanda completed it before Sheila felt that she had exhausted the possibility of completing it herself. She described this as a particular frustrating when speaking with Amanda because it prevented her from demonstrating her

competence to her daughter. Amanda reported difficulty judging when to begin collaborating in a repair and when to allow Sheila to continue her self-repair. The goal was for:

- Amanda to refrain from helping when Sheila did a self-initiation of repair, even if she was confident that she knew the target word Sheila was attempting to retrieve, *until Sheila made eye contact with her*.

Therapy included watching video excerpts in which Sheila displayed evident word finding difficulties and the couple was asked to pay particular attention to Sheila's eye gaze. Both were able to recognise that Sheila did not look at Amanda while she was engaged in word searches and that Amanda tended to begin collaborating in repairs quickly, i.e. conforming to the principle of least collaborative effort. It was also noted that Sheila tended to resume eye contact with Amanda at the point when she successfully retrieved the word she was searching for. The therapy was based on Sheila continuing her practice of avoiding eye contact while attempting to self-repair and making eye contact with Amanda when she felt unable to self-repair and was ready to accept help. The couple practised this behaviour in therapy conversations with the clinician present. Online coaching was provided as appropriate and the couple was asked to practise this behaviour in at least two conversations each week between sessions. Each week, the couple kept notes about their practice conversations which were reviewed with the clinician. Amanda reported that she found it difficult to stop herself from helping before Sheila invited her to do so because she found it difficult to watch Sheila evidently struggling, and commented that it required lots of practice to change this habit. At the same time, she stated that she believed it was important for Sheila to have control over the help she received, and expressed determination to master this, because "*she would rather struggle sometimes and get it herself*".

5.3.4. Post-therapy analysis of Amanda's collaboration in word searches

Sheila and Amanda video recorded eight conversations lasting a total of 188 minutes in the four weeks post-therapy. Four excerpts of these conversations, comprising just under 21 minutes were selected, transcribed and analysed for comparison with the pre-therapy data. Within the transcribed sections there were five environments of possible occurrence (Schegloff, 1993), where Sheila did a self-initiation of repair due to word finding difficulties that provided an opportunity for

Amanda to collaborate in completing the repair. Amanda resisted beginning to collaborate until Sheila made eye contact in all five instances. In total across the post-therapy data set of 188 minutes, there were 36 environments of possible occurrence and Amanda resisted collaborating on every one of those occasions, unless Sheila made eye contact with her. The couple was also interviewed post-therapy, and some of their comments are reported below.

	Sheila does a self-initiation of repair and begins a word search, Amanda collaborates prior to eye contact	Sheila does a self-initiation of repair and begins a word search, Amanda waits for eye contact before beginning to collaborate
Pre-therapy	6	0
Post-therapy	0	5
Maintenance	0	7

Table 5.4: Amanda's behaviour when Sheila did other-initiations of repair

In extract 5.20, Sheila is searching for a word to respond to Amanda's question about some knitting she has been doing.

Extract 5.20: B_1_2

```

149  A    Can you remember how to do them now
150      (.)
151  S    Mo::[st of them    ]
152  S          [((looks at A))]
153  A    That's good
154  S    Mo:st of them yes,[ (0.6)                ] u:::hm
155      (0.4)
155  S          [((looks away))    ]
156      the u:::hm, [ (2.0) e:::r                ] .hhhhhhh
157          [((gestures to waist))]
158      (0.4) hhhh no:::w then (2.8) make it different
159      do:n't you (.) the:: (.) the ba↑:::nd,
160      (2.4) I can't remember what it is (0.4) I
161      cannot remember what it i[s (0.6)                ] can
162  ->          [((looks at A))]
163      you?
164      (.)

```

165 A Is it a welt
 166 S The welt

In this extract, Sheila does not look at Amanda until she has produced a semantically-related word ("band" – line 159), and then stated that she cannot remember the word twice (lines 160-161). She looks at Amanda in line 162 and then says “can you?”, giving both a visual and verbal cue to Amanda that she is ready to accept help to complete the repair. After a micropause, Amanda offers the target “welt” in line 165 which Sheila then confirms in line 166.

In extract 5.21 Sheila is introducing a new topic at line 135 and she begins a self-initiation of repair while looking away (line 136).

Extract 5.21: B_2_2

133 A °Trying to thi:nk°
 134 [(0.8)]
 135 S-> |°.tch° | .hh tha::t u:::hm (1.6)
 136 S-> [((looking away))]
 137 u:::hm (0.4) °wait a minute wait a minute° (.)
 138 a:::h (10.0) .hh [(lamb Henry,)] (0.4)
 139 -> [((looks at A))]
 140 [con- ↑ha ha ha ha ha ha ha ha ha ha ha]
 141 A [minted lamb Henry (.) I kne:w you were going]
 142 to talk about tha:t was it nice

Here, Sheila continues to look away while she says “wait a minute” twice, providing verbal confirmation to Amanda that she wants to go on trying to self-repair. At line 139 she looks at Amanda as she begins to say "lamb Henry" two of the three target words. After a 0.4 second pause, Sheila and Amanda begin to talk in overlap, Sheila saying “con” then laughing, and Amanda producing the three word phrase that Sheila was searching for, potentially in response to Sheila's eye contact.

In extract 5.22, Sheila does a self-initiation of repair due to a word finding difficulty at line 008 that she completes at line 013.

Extract 5.22: B_4_2

001 A So don't forget your ↑hiki:ng boo:ts when
 002 we go away in case you want to climb
 003 Sno:wdon
 004 (.)

005 S £(Well [(funnily) (enough)] £.hh (you said that)
 006 [((looks away)]]
 007 (1.8)
 008 S-> U::hm (.) the two [shops (.)]]
 009 -> [((looks at A))]
 010 [with these boots] (.) ((clears throat))
 011 [((points at feet))] (.)
 012 (0.6) it's the u::hm, (2.4) °wait a
 013 -> minute° (4.0) [shoemakers]]
 014 -> [((looks at A))]
 015 A °Yeah°
 016 S °Yeah° (.) and he ↑had them (.) last yea:r (.)
 017 and he said (.) no::: I haven't got any I don't
 018 think I have any either >I said< but I have
 019 what I've go::t (.) .hh the [u::hm (0.6) gra:ps
 020 [((looks at A))]
 021 you know] the [u:hm (.) ir]]
 022] [((looks at feet, taps soles))]
 023 -> [ons (1.4)]]
 024 [((looks at A))]
 025 S [Y- yeah]
 026 A [S- snow] o:nes [for in snow d'ya mean]
 027 S [↑Yeah yeah (.) yeah]
 028 A-> The grips
 029 S So:, (.)↑you could get these if you wa:nt
 030 A Hu::h .hh
 031 S ↑↑Hee hee hee hee (.) (I said) ((looks away))
 032 No I don't think so:: ho ha ha huh huh huh huh
 033 A You not planning on going [i:ce climbing then]
 034 S [O::h £no (.) no£]
 035 no: .hhh no

During the word search in this extract, Sheila looks at Amanda briefly in line 009, while she says "shops". This could represent an invitation to Amanda to help with the repair, but Amanda appears to treat Sheila's eye contact as indicating she has successfully completed the word search, i.e. "shops" was the target, because she does not engage in any repair activity. However, as Sheila continues her turn, it appears that "shops" was not the target because she resumes her word search, at line 011, and, again gives a verbal indication to Amanda that she wants to go on attempting to complete the repair herself when she says "wait a minute" (lines 012-013). She looks at Amanda again as she says "shoemakers" in line 013, apparently completing the word search. Her next turn, beginning at line 016, also contains a self-initiation of repair and at line 020 she makes eye contact with Amanda before producing a

phonological paraphasia (“gra:ps”). Amanda does not respond to Sheila's eye contact or her "gra:ps", potentially because she is not sure what the target word is, so Sheila tries again to complete the repair, looking at and gesturing to her feet. At line 021-022 she produces a semantic paraphasia (“irons”) making eye contact partway through producing the word which appears to be an invitation to Amanda to help with the repair, as Sheila continues to look at Amanda until the repair sequence is complete. The 1.4 second silence at line 023 suggests that Amanda is reluctant to engage in the repair, possibly because she is unsure of the target. The couple begin speaking in overlap at lines 025 and 026, with Amanda doing an other-initiation of repair to clarify Sheila's meaning which enables her to finally complete the repair by guessing target word “grips” in line 028.

This couple's post-therapy conversational data provides strong evidence that the couple had incorporated their target behaviour into their everyday conversations. This is displayed consistently across all the 188 minutes of their post-therapy data, and the 36 occasions when Sheila did a self-initiation of repair due to word finding difficulties. When the couple was interviewed post-therapy, Sheila reported that she now used her eye gaze consciously to control when Amanda helps her with repair. She said: *“yes because before I looked at you straightaway there was nothing nothing at all then you (the clinician) suggested looking at that (gestures in front of herself) and then when I can't get it automatically (inclines head to where Amanda is) I needed help”*. Amanda reflected on the therapy and commented: *“I found it quite unnatural to do it for a time ... this is hard work this is I've got to think about this I've got to concentrate so I think for a while I thought ooh it's like a step back in a way uhm because well surely we were ok as we were then as the weeks progressed you think well no actually its becoming the normal now and then it is the norm now but I think that took time uhm uhm which was fine we had time but it is difficult to change how you've been doing something for so long whatever it is and uhm give it a chance to work”* Amanda also reported that she at times she wondered about the value of trying to change this aspect of their interaction, saying: *“so sometimes you're thinking is this beneficial or does it work so there's that bit of doubt to start with but you know that well if you don't try you don't know so you've got to carry on what's the worst thing it doesn't work”*.

Sheila and Amanda video-recorded 201 minutes of conversation at the maintenance stage, of which over 21 minutes were transcribed. There were seven environments of possible occurrence within these transcribed sections and on each occasion Amanda waited to be invited to collaborate with the repair. Across all 201 minutes of maintenance data there were 46 environments of possible occurrence and Amanda waited for Sheila to make eye contact on every occasion. It is interesting that at this stage, Sheila had adapted her method of mobilising help: she still used eye contact, but at times in the maintenance data set she invited Amanda to help verbally, sometimes together with making eye contact and sometimes not. Amanda waited until she was invited to help, either by Sheila making eye contact with her or by Sheila verbally asking for help.

5.4. Eleanor and Miranda

5.4.1. Background

Eleanor was 70 years old, and 11 months post onset when she and her partner, Miranda (aged 63), joined the study. Both Eleanor and Miranda had worked in academia prior to retiring and retained high levels of interest in their respective fields. Although Eleanor had retired some five years previously, while participating in this study she received an invitation to write a book chapter which, after some consideration, she decided not to pursue at that time. Both were keen consumers of current affairs, which they accessed via newspapers, radio and television, and often discussed in their video-recorded conversations. Eleanor presented with anomic aphasia, as seen on her BDAE profile (Goodglass, et al., 2001) (Figure 5.4). She was the only participant to achieve an intact score of 52/52 on the Pyramids and Palm Trees (3-pictures: Howard & Patterson, 1992) and was the second mildest participant in this case series on picture naming with a score of 49/60 on the BNT (Kaplan, et al., 1983) (age dependent mean = 48.9), which is above the mean (i.e. within the normal range). Her speech included word finding problems, restarts, and “fillers”.

On the cognitive assessments, Eleanor's scores were within normal limits on most tasks, however she displayed difficulties on the Elevator Counting with Distractions (Robertson, et al., 1994), where her score was equal lowest within the case series at 0 (>1st percentile). Eleanor and Miranda both scored Eleanor's disability similarly on

the CAT-DP (Swinburn, et al., 2005). Eleanor had a t-score of 51 and Miranda's t-score was 59, both within one standard deviation of the mean for people with aphasia (mean = 50, SD = 10). Interview data revealed that Eleanor's aphasic difficulties tended to lead to heightened emotions for both Eleanor and Miranda. Miranda described anxiety about how to best support Eleanor's communicative difficulties, particularly because she felt that misjudging how to help could lead to an escalation of anxiety and frustration. For example, she reported that if she attempted to guess a word that Eleanor was unable to retrieve and was wrong, Eleanor could become upset, leaving her feeling guilty and uncertain about how to respond with a result that communication could break down entirely at times, which both found upsetting.

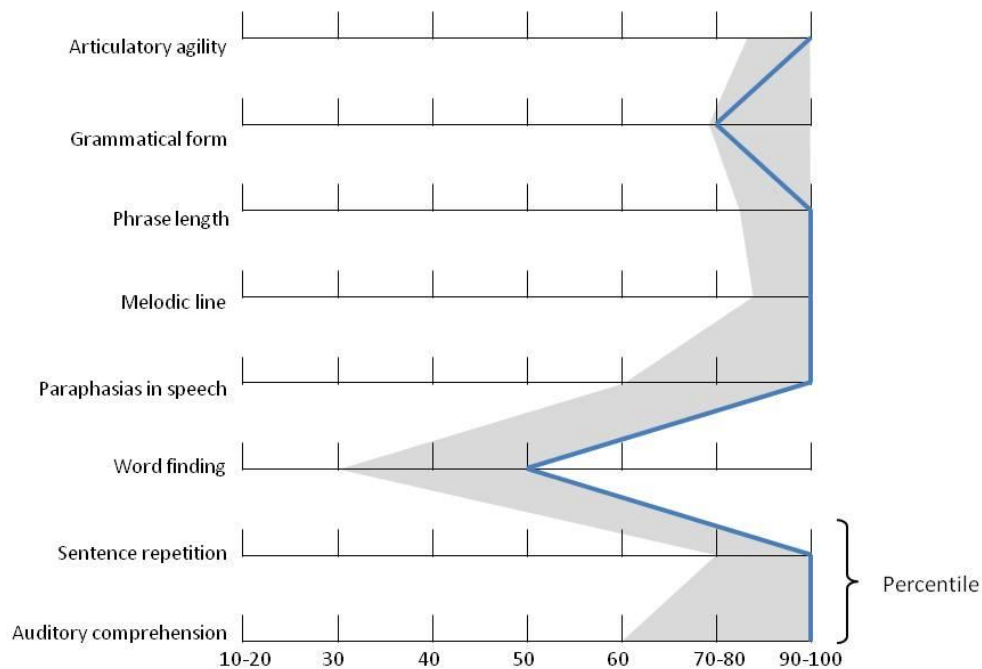


Figure 5.4: Eleanor's BDAE profile

Both agreed that Miranda tended to talk more than Eleanor and that this had been the case pre-morbidly. Miranda said that at times she consciously did not speak or asked Eleanor questions because she wanted Eleanor to speak "... I do make efforts to to be just be quiet or to ask you questions and uhm I do get one syllable answers very often", but that this was not always effective. Eleanor's perspective was that Miranda generally, was a very good listener "...when she focuses on me she listens

very uhm carefully uhm she is a good listener". However, she said that when Miranda talked at length, she found it difficult to retain her own train of thought and often could not recall what she wanted to say when Miranda ended her turn: "Well a a it takes me a long time to to say anything and sometimes I just don't bother because i- i- it's probably not important and uhm and er tch tch err s- mm and and also and also sometimes I I I I forgot you know I mean I I I .hh uhm y- you know you know you w- uhm ta- talking so much I I forget you know".

5.4.2. Analysis of pre-therapy conversation data

Eleanor and Miranda video-recorded over 94 minutes of conversation data pre-therapy of which over 21 minutes were transcribed and analysed according to conversation analysis protocols. Two behaviours were noticeable when the analysis was viewed in the light of the couple's own reports of their difficulties. These were: 1) Miranda's uncertainty about when to collaborate with Eleanor's word searches, and Eleanor's difficulties with both retaining her 'train of thought' (as evidenced through her conversational behaviour); and 2) the unequal participation of the couple, with Miranda regularly producing lengthy turns and Eleanor regularly only producing passing turns or brief turns during long periods of their conversations. Both these behaviours appeared to be the result of Eleanor's aphasia, and represented potential targets for the interaction-focused therapy. The inequality of turn sizes with Miranda tending to produce lengthy turns while Eleanor tended to produce minimal turns is described first, then Miranda's collaboration in repair activities.

5.4.3. Pre-therapy evidence of Eleanor and Miranda's unequal participation

The following three extracts display the inequality of participation in conversation that was a feature of this couple's interactions. It was hypothesised that Eleanor's comment during the interview that "*sometimes I- I- I- I- forgot you know I mean I- I- I- I- .hh uhm y- you know you know you w- uhm ta- talking so much I I forget you know*", may have been a function of some cognitive problems that made it difficult for her to attend to Miranda's talk while also formulating her own response. Miranda's observation that, "*I do get one syllable answers very often*", may have been because Eleanor was a relatively passive participant and was inactive in the interaction for quite long periods. In extract 4.23, the couple is talking about recent

rioting in some UK cities. Miranda's turns are relatively lengthy and, as is usual for a speaker, she does not make sustained eye contact with Eleanor while she is talking.

Extract 5.23: A_1_2

109 E Anyway e- [uhm] e- yeah (.) just uhm
110 M [Mm]
111 (2.8)
112 E °Ah cr- yea:h°
113 M It's difficult to kno:w what the way forward
114 is when you've been in this situation and
115 (0.4) I mean i- it cos I mean it, (.)
116 I do:n- (.) I haven't read (.) what Mi-
117 Milliba:nd has said (.) I haven't read any
118 articles yet (0.4) u::hm (.) so I'm >sort of
119 fairly uninformed about it< (.) but I I:: (1.0)
120 I think, (.) I mean the rea::l (0.4) the
121 (.) th- (kernel) the problem (.) i- i- i::s
122 >I mean< ↑Milliband's absolutely ri:::ght in
123 saying that there are (.) [
124 -> [((looks at E))]
125 complex social economic>
126 E °Mm mm°
127 M Factors involved in thi:s=
128 E =Mhm,
129 M As well as the fact that there are people
130 behaving li:ke (0.6) complete (.) idiots
131 I mean there is >that kind of< dimension
132 as we:ll (.) but, (1.0) what is being
133 propo:sed >given the economic situation<
134 [what] is being propo::sed (.)
135 -> [((looks away))]
136 [a::s] a way forwa::rd i:n (.) in
137 -> [((looks at E))]
138 in in ↑dealing (.) with the situation
139 E Mhm,
140 M U:::m I mean tha- an- that's that's the
141 difficulty >I mean< what [you::'re] s-
142 -> [((looks away))]
143 you:'re say I mean you're saying okay (.)
144 [Came]ron is the kind of (.)
145 [((looks at E))]
146 kn:ee:: jerk reaction oh go to the States
147 we'll get the get some consultants in
148 [(from down there)]
149 E [(No no no)]
150 M [We'll] use thei:::r (.) you know an-
151 [((looks away))]
152 and >you know< you're you're saying well
153 [actually] the States are very different
154 [((looks at E))]
155 to: the situation [in the U] K

156 E-> [Mhm,]
157 E-> Ye::s [yes]
158 M [But] I suppose the que- [I mean]
159 [((looks away))]
160 the question I'm raising is (.) a- (.) have,
161 (.) well you haven't even read this yet but
162 have you (.) have you hea:::rd of any u::hm
163 (0.4) [wa:ys] forward (.) you kno::w
164 [((looks at E))]
165 i- i- in dealing [(we)] can see what
166 [((looks away))]
167 the problems a:re and they're [immense]
168 [((looks at E))]
169 and they're complex but (.) you know (.) wa:ys
170 of, (.) of e::r (0.4) of tackling them
171 (1.4)
172 E-> We::ll I mea:n (.) I (.) I: (don't kno::w)
173 just just (.) m- maybe slowing do:wn the the
174 rate of u::hm (.) uhm you know the economic (.)
175 depr- de- deprivat:ions
176 M Mm::

In this extract, Eleanor displays no behaviours to indicate that she wants to begin a turn, and all her turns are brief, until Miranda produces a question (line 158), making a longer turn relevant from Eleanor. There is also evidence in this extract of Eleanor beginning to talk apparently before she has formulated her turn: at line 109, she begins with "Anyway" and then produces fillers before appearing to abandon the turn at line 112.

In extract 5.24, the couple has been talking about an invitation that Eleanor has received to write a book chapter, and Eleanor has been describing her reasons for declining this, which she summarises in her turn at lines 087-090/092.

Extract 5.24: A_2_2

087 E U:::hm, (0.8) so:: u:::hm (0.6) so it so it
088 s- so it's m- mai:nly th- the key eleme:nt
089 i:s (.) u:::hm (.) °u:::hm° (0.4) I'm not i-
090 not insi:::de (.) the the:: u::hm
091 M [Mm:]
092 E [The] issues
093 (0.6)
094 M N- no:t inside () >and I think< the point
095 about you, (0.6) you n- no:t (.) th- that
096 isn't where your motivation [lie:s]
097 -> [((looks at E))]
098 at the moment and I I think I can (0.4) I

099 can [see] tha:t .hhh I mean I I
 100 [((looks away))]
 101 I think well a number of things one is that
 102 u::hm, (0.4) .hhhh I think it's a great
 103 compliment (.) to::: (0.4) be invited and
 104 this is [because] people are still in
 105 -> [((looks at E))]
 106 touch with your wo:rk which is which is a (.)
 107 ↑great thing for you to feel [whe:n]
 108 [((looks away))]
 109 in (.) [many wa::ys]
 110 E [Ye::s] (yeah)
 111 M The recent experiences [makes] you
 112 -> [((looks at E))]
 113 feel a little bit as though you've been (.)
 114 plopped off on the (.) sideli:ne somewhere
 115 you know (.) I mean that's (.) part of the
 116 impact of a stro:ke I think °[isn't] it°
 117 E [Mm]
 118 E Mhm
 119 M And also of retirement () (.) .hhh [so] ()=
 120 E [Mm]
 121 M =I think it's a great [↑that's] a
 122 [((looks away))]
 123 grea:t thing and I know a number of people
 124 who will be very [impressed] (0.6)
 125 -> [((looks at E))]
 126 [by] tha::t I know people working
 127 [((looks away))]
 128 in academia who will be very impressed >with
 129 that >I'm thinking about< (.) Ivan and Maude
 130 [for exa:mple] [and] others (.)
 131 -> [((looks at E))] [((looks away))]
 132 .hhh uhm so it's (ni-) i- i- it's a grea::t,
 133 (.) I think it's a g- it should be a re- and
 134 It [is] a boost, (.) to you:::r
 135 -> [((looks at E))]
 136 (.) mo↑ra::le [and] [confidence]
 137 E [Mm]
 138 M [((looks away))]
 139 E Mm

In this extract Miranda has been speaking less than Eleanor, but the balance changes and from line 094 onwards Eleanor's turns comprise primarily minimal turns and agreement tokens (e.g. lines 110, 117, 118, 120, and 127) (as in extract 5.23). The fact that the balance of talking shifts to Miranda during this topic is notable because the topic is Eleanor's feelings about the invitation, a subject on which

Eleanor could be expected to say more, and so seems to provide evidence that at times Eleanor chooses not to say more. During this extract, Miranda makes eye contact with Eleanor at several points, (e.g. lines 097, 105, 112, and 125), but typically when she is part-way through a turn when it would not be relevant for Eleanor to begin speaking. For example, Miranda makes eye contact midway through a TCU (line 105), when Eleanor could not begin a turn without coming into Miranda's turn space. There is evidence in this extract too of Eleanor attempting to begin a turn before she appears to have formulated what she wishes to say. At line 087, she begins with a prolonged "uhm" then a "so" and these are repeated, as are the next words and part words. This appears to be a method by which Eleanor is able to begin and maintain her turn, and which Miranda treats as an ongoing turn.

In extract 5.25 the couple has been talking about what to do with their dogs while they attend a family event.

Extract 5.25: A_3_2

054 M [And] I mean heavens they could
 055 chase sheep and (.) (heavens know what)
 056 E I know that's true yeah
 057 M No I don't think we can do tha:t so
 058 the:y're >I mean< ↑either (.) either we
 059 take the::m (0.4) and we just have to lea:ve
 060 them for that seven hour period (.) I mean
 061 they'll survi:ve i:t
 062 E Mhm
 063 (.)
 064 M-> And we'll be the ones who'll be most
 065 -> uncom [fortable (but they'll survive it]
 066 E-> [But they but they] but
 067 -> they th- the::y (.) they ye::ll,
 068 (.)
 069 M ↑Ye::s they will periodically but I mean
 070 they do- (.) they're they're temporarily
 071 they're in that place on a temporary basis
 072 for a matter of er two or three ni:ghts,
 073 E mhm

Miranda's turn at line 057-061 above is relatively long and she is partway through another turn (line 064-065), when Eleanor begins in overlap (line 066), which is an unusual behaviour for this couple. Miranda does not surrender the floor when Eleanor begins to speak and both are speaking together until Miranda reaches the end of her TCU. Eleanor then restarts her turn.

5.4.4. Therapy targeting unequal participation

The second therapy target was to create more opportunities for Eleanor to take a turn. This was selected to address the couple's concern that Eleanor is relatively quiet within conversation, and that she feels anxious that she is slow to express herself. During the interview, Eleanor talked about this anxiety and her sense that because of her difficulties, she holds Miranda up. For example, she commented: *"I'm aware that at times she's (Miranda's) frustrated with me er yes just frustrated ... and she wants to get on to something else"*. She also acknowledged that she has difficulty understanding and following long turns by Miranda: *"sometimes I- I- I- I- forgot you know I mean I- I- I- .hh uhm y- you know you know you w- uhm ta- talking so much I I forget you know"*, which seemed to relate to the dissatisfaction that Miranda expressed when she commented that when she tries to encourage Eleanor to speak sometimes this results in: *"one syllable answers very often"*. When this was discussed as a potential therapy target, Eleanor stated that: *"I would like for me is achieving more depth not just kind of superficial but achieving much more depth ... uhm you may be saying what you mean and er I just maybe I don't I don't say what I mean I say it in a shorter time"*. We reviewed some video excerpts in which Miranda produced lengthy turns with minimal input from Eleanor. Miranda reported that she had not appreciated that Eleanor found it difficult to follow her talk: *"I think I have a role to try to be patient and also to try and be clear in what I'm saying ... I was interested in what Eleanor said that she finds it difficult to understand me because I hadn't realised she perceived things that way uhm so that's something that I need to think about certainly."* The likelihood that Eleanor's difficulty understanding Miranda's talk led to reduced participation by Eleanor was discussed, and that Eleanor may find it easier to understand and participate more actively if Miranda's turns were shorter.

The therapy aim was that:

- a) Miranda would chunk her talk and incorporate intra-turn pauses to assist Eleanor's understanding, and leave gaps at TRPs where Eleanor could begin a turn, and
- b) Eleanor would practice using behaviours that would enable her to begin a full turn rather than producing a minimal turn and allowing the turn to transition back to Miranda.

When this was first discussed, Eleanor suggested trying writing key words while Miranda was speaking, as an aide memoire, but after a week of this, the couple reported that it was not successful. Two alternative behaviours were identified and these were for Miranda to "chunk" her talk by using pauses, and for Eleanor to signal explicitly when she wished to begin a turn herself by verbal and/or nonverbal behaviours, including minimal turns with intonation to indicate incompleteness (e.g. a prolonged "yes" with rising intonation), or by leaning forward slightly, as these would be less intrusive than writing key words. This second behaviour was designed to build on what Eleanor already appeared to be doing in the pre-therapy data, i.e. beginning a turn before she had fully formulated what she wished to say, albeit she may not have been conscious of using this method. This was practised first by Miranda reading text from a newspaper. Her task was to break the text into short chunks and make eye contact between chunks, to monitor for signals that Eleanor wished to come in. At the same time Eleanor practised using the methods above to indicate when she wanted to begin a turn. The clinician provided online feedback and facilitated reflection by the couple about the behaviours. The couple practised this as homework before moving from written texts to using the behaviours in more naturalistic conversation. Miranda reported that she found it extremely difficult to chunk her talk and leave pauses/gaps, and instead, was attempting to talk less quickly – when she remembered to do so. Eleanor agreed that Miranda was slowing her rate of speech at times, and that she herself felt more able to come in during Miranda's lengthier turns, which both agreed was happening. The couple continued to practise and Eleanor reported feeling more assertive about claiming a turn space, so we added the behaviour of using an exaggerated in-breath as another method of claiming the floor.

5.4.5. Post-therapy analysis of unequal participation

It was expected that post-therapy there would be evidence of Eleanor using verbal and non-verbal behaviours to indicate to Miranda that she wished to begin a full turn. For example, Eleanor was expected to produce a prolonged "yes" or "well", an exaggerated in-breath and/or a movement forward as the beginning of a turn, rather than producing a passing turn, such as "mmm", which was her typical behaviour pre-therapy. At the same time, it was expected that there would be evidence of Miranda creating opportunities for Eleanor to talk, by breaking up her turns into shorter

chunks. During the therapy Miranda had reported finding this difficult to implement and that she was attempting instead to slow her speech rate, to assist Eleanor's comprehension and, potentially, allow her to come in more easily. It was not feasible to determine whether Miranda was speaking more slowly post-therapy due to the inherent variability of the couple's dialogue, which made quantifying words per minute impossible. There is minimal evidence throughout the 89 minutes of post-therapy data of Miranda creating opportunities for Eleanor to claim a turn by using the pausing behaviour practised in therapy. However, there are 14 instances of Eleanor using the practised behaviour to begin producing a full turn (rather than a minimal turn) by coming into Miranda's turn space

The post-therapy data set contains evidence of Miranda using intra-turn pauses, but these are not systematically different from the pre-therapy data.

Extract 5.26: B_4_2

```

007 M and a point he was making very
008 -> strongly was that if marriage (1.0)
009 -> is available to heterosexual (0.9)
010 -> couples in the name of equality
011 -> it should be a[vaila]ble to (.) er
012 E [mhm ]
013 M but not just to lesbian
014 and gay couples but to a range of of
015 other couples
016 E °mhm°
017 M-> in the name of equality

```

For example, in extract 4.23 (page 118), Miranda incorporates an intra turn pause of 0.4 second between "and" and "I mean" (line 115), and a 1.0 second intra-turn pause after "but I I:." before she says "I think" (line 119-120). Later in that extract she does a 0.4 second intra-turn pause between "behaving like" and "complete (.) idiots" (line 130), and later in the same turn she pauses for 1.0 seconds after saying "but," before continuing with "what is being proposed ...". These intra-turn pauses could represent word searches, or Miranda formulating what she wants to say, but whatever their cause, they occur at points in the data when Miranda's turn could not be heard as complete. Post-therapy her pauses are similarly placed at points when her turn is not hearable as possibly complete. For example, in extract 4.26 the intra-turn pauses of 1.0 second between 'marriage' and 'is' (lines 008-009), and 0.9 seconds between 'heterosexual' and 'couples' (lines 009-010) are not at TRPs, and so do not

appear to be a result of the therapy because their positioning does not function to create an opportunity for Eleanor to speak, other than by coming into Miranda's turn space to do so.

Although there is no systematic evidence of Miranda creating opportunities, such as pauses at TRPs, for Eleanor to begin a turn, there is evidence of Eleanor claiming a turn, using the behaviours introduced during the therapy.

	Eleanor comes into Miranda's turn space to begin a full turn
Pre-therapy	7
Post-therapy	14
Maintenance	13

Table 5.5: Eleanor coming into Miranda's turn space to begin full turn

Extract 5.27: B_1_2

```

001 M    but yeah I I mean you ha- we have to (.)
002      Go through (.) we you and I have to
003 ->   work out well what is: core (.)
004 ->   cause [what may] be core to
005 E           [ye:s   ]
006 M->   you fmay not be core to me andf
007 E->   well that well that is true b-
008       but uhm there there's definitely maybe
009       a dozen boxes of books

```

In extract 5.27, Eleanor begins a turn by coming into Miranda's turn space with "well ..." (line 007), as practised in therapy. By doing this she displays more assertiveness at claiming a turn than she did pre-therapy. Interestingly, Miranda responds by surrendering the floor to Eleanor, even though her own turn is incomplete, again a behaviour that was not evident pre-therapy.

In extract 5.28, there is more evidence of Eleanor actively claiming a turn.

Extract 5.28: B_2_2

```

023 E    but we made a a home wherever
024      we (found it) y'know
025 M    I think we're good home makers
026      yeah I think we're good homemakers
027      and I I don't have any (.) fear about
028      our being able to do that (.) uhm
029      but I mean (.) what I would like
030      us to be able to fi:nd is a place
031      with some character somehow a

```


gave me permission, although I don't know why I needed permission, and combined with Miranda speaking slower uhm and just just gives me a chance to get in ... it's definitely a change and very conscious change uhm and that I feel very important ... it just just very much struck me that is is is important and it just didn't strike me before uhm uhm that I could er interrupt". For Miranda, one benefit that she felt the therapy had provided was the insight into the difficulty that Eleanor sometimes experienced in understanding her. She said "...I have had some very good insights into both myself and Eleanor ... the question about understanding and Eleanor said something that with me it was very difficult understanding and yet it was quite easy or something to understand her friends", and that this had been something she had not appreciated previously.

Eleanor and Miranda video-recorded 149 minutes of conversational data at the maintenance stage, of which 22 minutes were transcribed. Within this maintenance data set, there were 13 instances of Eleanor using the practised behaviours to claim a turn, including one instance where Eleanor's first attempt failed and she immediately tried again, succeeding at the second attempt.

5.4.6. Pre-therapy evidence of inconsistent collaboration in word searches by Miranda

When Eleanor experienced word finding difficulties, she displayed self-initiations of repair often in the form of "uhms" and "ers", fillers such as "you know" and "I mean", and repetitions of part or whole words. This behaviour slowed her progressivity, enabled her to hold the floor and convey to Miranda that she was engaged in a word search. Eleanor was often able to self-repair within the trouble-source turn, obviating the need for Miranda to collaborate in the repair activity. However, there were times when, potentially, Miranda could have guessed the target and so resolved the word search more quickly, but as reported above, she was reluctant to attempt guessing because guessing wrongly could lead to an escalation of emotion.

Extract 5.30: A_1_2

```

172 E-> We::ll I mea:n (.) I (.) I: (don't kno::w)
173 -> just just (.) m- maybe [slowing do:wn ] the
174 -> [((looks at M))]
```

175 -> the rate [of u::h]m (.) uhm you know
 176 -> [((looks at M))]
 177 -> The economic (.) depr- [de- d]epriva:
 178 -> [((looks at M))]
 179 [tions]
 180 M [Mm::] mmm
 181 E-> U::hm (1.2) u::hm (1.8) u::hm (.) e::r (1.6)
 182 -> [y- you] know the government
 183 M-> [Jo:bs]
 184 E [sa::y=]
 185 [((looks at M))]
 186 M =the government's pro[viding jobs] isn't it
 187 E |That's right |
 188 [((looks at M))]
 189 M Yeah

In extract 5.30, Eleanor produces fillers ("I mean", "you know" at lines 172, 175 and 182), "uhms" and "ers" (lines 175, 181), and repetitions at lines 173, 177-179 ("depr- de- deprivations") as she searches for a word. Notably, her eye gaze remains averted until she produces the target "slowing down" (line 173) and again as she begins to say "deprivations" (line 177). In line 174 she glances briefly at Miranda, during a word search, but this is not sustained. As is typical of the listener, Miranda is looking at Eleanor while she is talking, and she comes in to Eleanor's turn space with a collaborative completion ("jobs": line 183) which Eleanor ignores. It is hypothesised that Eleanor may ignore Miranda's other-repair because she wanted to self-repair, and this would be consistent with her not making eye contact at that point.

Extract 5.31 shows Eleanor producing self-initiations of repair.

Extract 5.31: A_2_2

058 E U::hm (0.4)an- a:nd the:, (.) th- th- the:
 059 e:r (.) th- the bi:g thi::ng i:::s (.) u::hm
 060 (.) is your j- just just doi:ng doing (0.4)
 061 resea:rch of the (.) deba:tes (.) is not is
 062 -> not (.) the issue but you need to [be inside i::t]
 063 E-> [((looks at M))]
 064 M Mmm (.) [mm:]
 065 E [You] kno:w u::hm (.) u::hm (.) [er]
 066 E-> |((looks at M))|
 067 M-> [Talk]ing
 068 (with) people and being at confere:nces
 069 E T- talking with people ye:s a:nd u::hm, (0.6)
 070 ye:s a:nd a:nd (.) i- i- u::hm (.) i- in

Eleanor has been talking about government policy in response to recent rioting. The transcription begins with Eleanor requesting Miranda's help verbally, when she says "wh- what is it you call it ..." (line 002), at the same time that she makes brief eye contact (line 003). Miranda apologises that she cannot assist (line 005-006), and then repeats her apology at line 009, possibly displaying her anxiety regarding her ability to help effectively when Eleanor experiences difficulties.

5.4.7. Therapy targeting eye gaze to manage Miranda's collaboration in repair activities

Eleanor's use of eye gaze to stall and/or mobilise help from Miranda was agreed as a target behaviour. We discussed how Eleanor could use eye contact during self-repair to signal to Miranda whether or not she should collaborate. Therapy involved education regarding 'repair', including the preference for 'self-repair', and that aphasia makes this difficult, potentially delaying progressivity while speakers search for words or formulate alternate ways to express themselves. Looking at video examples, the couple was able to recognise that during self-repair, Eleanor tended to avoid eye contact with Miranda, and made eye contact when she produced the target. The therapy activity, which built on this existing behaviour, was for Eleanor to *avoid* looking at Miranda if she wanted to continue self-repair, making eye contact only when she wanted Miranda to try to help. Meanwhile Miranda should withhold collaboration until Eleanor made eye contact. This therapy was similar to that which was implemented for Sheila and her daughter, described in Section 4.3.3 (page 109). This was practised first by the clinician modelling use of eye contact to stall/mobilise help while talking with Miranda. Eleanor observed and was able to recognise how she could indicate when she wanted Miranda to come in. Then the couple practised together, with online feedback from the clinician. They were asked to practice this behaviour in at least two ten minute conversations between therapy sessions, keeping notes in which they reflected upon what happened. It was stressed that there would *always* be times when Miranda was unable to help, and that Eleanor should be mindful of this after she had invited Miranda to help.

5.4.8. Post-therapy analysis of Miranda's collaboration in repair

The couple video-recorded almost 90 minutes of conversation immediately post-therapy, over 21 of which were transcribed. Based on the therapy regarding Eleanor's

use of eye gaze to stall/mobilise collaboration it was expected that Miranda would refrain from collaborating in repair activities until Eleanor made eye contact. As soon as Eleanor gazed at her, Miranda would come in, because eye contact was her cue to begin collaborating in the repair activity. Across the 21minutes of data that were transcribed there were only two environments of possible occurrence, i.e. occasions when Eleanor displayed word finding difficulties and Miranda could have come in with a guess. On both of these occasions Miranda waited for eye contact from Eleanor before guessing. These results are equivocal in that pre-therapy there was limited evidence of Miranda beginning to collaborate prior to Eleanor making eye contact with her, and post-therapy there were limited opportunities because Eleanor used her typical behaviours (e.g. fillers and repetitions of part or whole words) to buy herself sufficient time to complete the repair herself. However, in both environments of possible occurrence in the post-therapy transcripts, Miranda did wait for eye contact before coming in to collaborate. Analysis of the full 90 minute data set supported the finding that Miranda was waiting for eye contact from Eleanor before collaborating with word searches. There were eleven environments of possible occurrence, i.e. occasions when Eleanor displayed word finding difficulties and Miranda could have come in with a guess in the data set. On ten of these occasions Miranda waited for eye contact from Eleanor before collaborating. On the eleventh occasion, Miranda came in with a guess before Eleanor had made any eye contact with her.

	Eleanor did self-initiation of repair, Miranda collaborated prior to eye contact	Eleanor did self-initiation of repair, Miranda waited for eye contact
Pre-therapy	3	0
Post-therapy	0	2
Maintenance	0	2

Table 5.6: Miranda's behaviour when Eleanor did a self-initiation of repair

In extract 5.33, Eleanor is engaged in a word search and does not make eye contact with Miranda until lines 135/6.

Extract 5.33: B_2_2

129 M and er you're hoping that we can do all
130 this (.) within this 12 week,
131 E I don't [know]
132 M [period]
133 E-> I don't know (.) I mean we're we're
134 -> we're f- fixed in the terms of (.)
135 -> uhm () the the uhm the r- [rent rent]
136 -> [((looks at M))]
137 -> uhm (.) er [yellow] rent [yellow ()]
138 M-> [mmm] [the (st-) yellow]
139 -> the big yellow the storage
140 E-> big yellow uhuh the storage
141 M Mmm

In this extract Miranda seems to treat "rent" as the target and does not come in. However, Eleanor goes on self-repairing (line 137), saying "er yellow rent yellow". As she produces the second "yellow" Miranda begins to collaborate (in overlap), saying "the (st-) yellow the big yellow the storage". The hesitant production of Miranda's turn may indicate that while she seems to respond to Eleanor's eye gaze at line 136 by beginning to collaborate, because Eleanor is no longer looking at her, she is unsure if she should come in or not. Or it may be that she is not sure of the target and anxious that her guess may be wrong.

In extract 5.34 Eleanor is unable to resolve a word search herself and invites Miranda's help verbally, and through her eye gaze.

Extract 5.34 B_4_2

018 E Mhm er but s- su- y'know (er) sue sue
019 () wise and liz s- stanley t- talk
020 about uhm () uh(.hh)m they they
021 uhm marriage being available to to
022 all and they include people like uhm
023 Uhm brothers and sisters and er people
024 like () people not uhm uhm ()
025 not not not in terms of the kind of
026 gay marriage but uhm but er it seems
027 to me this is this is this is ()
028 -> kind well er uhm [what is the word]
029 -> [((looks at M))]
030 -> er [()] n- n- nonsense
031 -> [((gesticulating))]
032 -> [in n- in] oth- I mean in other er ways ()
033 M [ye(h)s]
032 E-> uhm its yes what is it
035 M-> well I don't know that I'm I'm I'm not
035 nec- I don't know if I'm picking up

Extract 5.36 occurs shortly after extract 4.35.

Extract 5.36: B_1_2

044 M I mean these the methodist furniture
045 place'll they'll use those beds
046 (.)
047 E-> but but we we'll [it'll cost us]
048 E-> [((eye contact))]
049 E-> [uhm]
050 E-> [((averts gaze))]
051 M-> To re[place]
052 E |repla | ce yeah
053 E [((eye contact))]

In this extract, Eleanor is making eye contact with Miranda when she reaches a word finding difficulty (line 047). She averts her gaze while searching for the target which Miranda supplies after a brief delay (line 051). This suggests that the couple is not adhering strictly to the behaviour that was practised in therapy, i.e. Miranda treats eye contact from Eleanor as a signal to collaborate, even if the eye contact is not maintained.

Eleanor and Miranda video-recorded 149 minutes of conversational data at the maintenance stage, of which 22 minutes were transcribed. Within the transcribed sections there were two environments of possible occurrence, i.e. instances of Eleanor being visibly engaged in a word search and on both occasions Miranda displayed the target activity of waiting for eye contact before coming in to collaborate with the repair activity.

During the post-therapy interview, the couple talked about the use of eye gaze to manage Miranda's collaboration with repair, Eleanor felt that she needed to practise this more, saying "*I communicate to her my my my eyes to say 'come on' ... not just eye contact but definitely say 'come on give me the word'... I need to practise asking Miranda to help more ... with eye contact to say 'come in and help me' even verbally asking for help.* Miranda described this component of the therapy as beneficial because it reduced her anxiety about whether or not to help when Eleanor was having difficulty. She said: *I know that I have to wait to be invited in I might occasionally in a situation come in if Eleanor didn't invite me but on the whole and Eleanor knows to invite me but she tends on the whole to prefer to do it on her own ... from my perspective I found it really helpful to have had you (clinician) say to*

Eleanor, y'know if she gets it wrong when she comes in y'know be kind to her because she can't always get it right and that's quite helpful to me because I'm feeling 'ooh I got it wrong' because I'm feeling y'know the tension Eleanor may be feeling or the frustration and you get nervous about coming in because y'know you're just going to perhaps make things much worse... "

The CAT-DP (Swinburn, et al., 2005) was re-administered post-therapy. Eleanor's t-score increased from 51 to 60, and Miranda's increased from 50 to 56. Pre- and post-therapy scores were both within one SD of the mean.

RESULTS II: COUPLES WHO DISPLAYED NO CHANGES

This chapter reports the four couples in this case series whom displayed no evidence of systematic changes when the pre- and post-therapy video-recorded conversational data were compared. The hypothesised reasons for this lack of change are discussed in Chapter 6. The first couple to be reported are Edward and Maureen.

6.1. Edward and Maureen

6.1.1. Background

Edward was 71 years old when he joined the study, with his wife, Maureen, (aged 56). He was 18 months post the CVA that had caused his aphasia, which presented as moderate to severe Wernicke's aphasia (see Figure 6.1 for Edward's BDAE profile: Goodglass, et al., 2001) and he was the third most severely impaired participant within the case series in terms of his picture naming, with a score of 10 out of 60 on the BNT (Kaplan, et al., 1983). On the Pyramids and Palm Trees (3 pictures: Howard & Patterson, 1992) he scored 48 out of 52 indicating some problems with semantics (the cut off for the normal range is 49). He scored 61 out of 80 on the PALPA single word reading subtest (Kay, et al., 1992) and 43 out of 80 on the PALPA single word repetition subtest (Kay, et al., 1992). Edward's expressive language deficits manifested during conversation primarily as word finding problems, jargon, and paraphasic errors, while his receptive difficulties were evident in his repair behaviours, his tendency to produce minimal turns and to pass opportunities to take a turn.

Edward displayed some strengths on the cognitive assessments. For example, his score on the Ravens CPM (Raven, 1962) placed him between the 75th and 90th percentile. However, he had some difficulties, for example on the Brixton Spatial Anticipation Test (Burgess & Shallice, 1997), where his score resulted in a classification of 'poor', and on the TEA with distractions (Robertson, et al., 1994), where his score placed him just within normal limits, between the 6.7th and 12.2nd percentile.

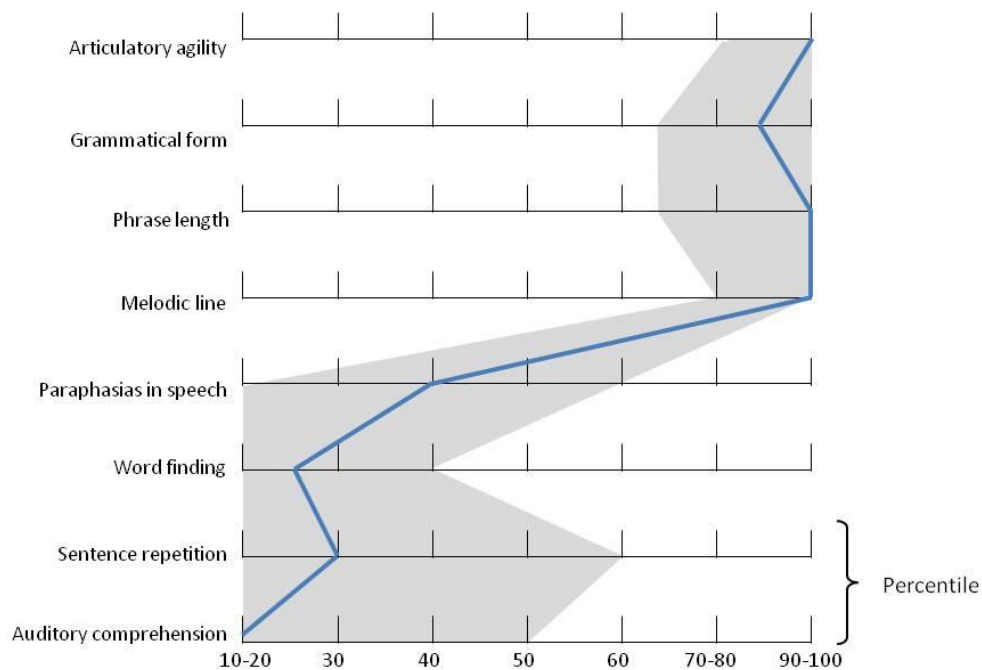


Figure 6.1: Edward's BDAE profile

Edward's t-score on the CAT-DP (Swinburn, et al., 2005) was 59, indicating that he did not perceive his communication disability to be severe (mean for people with aphasia = 50, SD = 10). This score was the lowest score of the participants with aphasia in this case series, and indicated that despite his relatively severe difficulties with expression and comprehension, Edward did not perceive himself to be severely impacted by his communication problems. Maureen's t-score on the CAT-DP was 47, indicating a discrepancy with Edward's self-reported t-score, in that Maureen believed Edward was more impacted by his difficulties than his own score suggested. Maureen's t-score was amongst the most severe scores of the partners in this case series.

When the couple was interviewed, Edward indicated that Maureen helped him a great deal. He said: *"No no she knows everything about it she knows better than I should really"*. Maureen reported that Edward tended to mask his comprehension problems, saying: *"yes he does it a lot, he does it when we're out and I know that when we start laughing he starts laughing but he doesn't know what we're laughing about and its sad he doesn't realise what's funny and then after we leave he'll say to*

me 'what were you laughing at' it's a shame ... you know he misses most of what's going on ...when we come back he'll ask me lots of questions about things and then I have to explain what's you know what really was going on".

When asked about things that she does to help Edward, Maureen reported: *"there's lots of little things that I do to help him ... like yesterday he keeps asking what time the 'plane goes and now I just write it down sometimes and I might not have thought to have done that before I've picked a few things up like that its helpful and now it's just in me to do that it's just second nature to me now it just happens doesn't it then just the way you talk to each other".* Edward's lack of insight was evidenced by his lack of concern about his difficulties. For example, he commented *"no the trouble is not really I don't know really see the problem with me is I don't give a damn really ... I mean ... talking all this I said something wrong I just think oh".* However, Edward did acknowledge that conversations must be difficult for Maureen, saying; *"Its worse for you (meaning Maureen) keep thinking about it all the time ... yes I know but it must be harder for you if I'm doing somebody there something there and then I go (gestures) must have been harder for you that".* Maureen described Edward's lack of awareness of his difficulties when the two of them are talking together: *"when he does these tests he realises how bad he is when it's just me and him he doesn't realise how bad he is".* Maureen described changes to the way she talked with Edward including saying: *"I don't go into as much details about things as I probably would have done when I'm talking because I don't see the point and I change some of the words to make it in more plain English".* She also reported that the couple had agreed that she would 'correct' him some of the time when he produced the wrong word, but that this would not become normal behaviour *"because that would be so awful to do that to somebody wouldn't it".*

Edward and Maureen video-recorded 244 minutes of conversation pre-therapy, of which just over 22 minutes were transcribed for detailed analysis. CA of the data indicated that Maureen had adapted her talk to accommodate Edward's difficulties. For example, she tended to use collaborative repair behaviours when Edward had difficulty expressing himself, typically either guessing target words, paraphrasing what she thought he meant, or waiting and allowing him time to attempt to self-repair. She also displayed awareness of Edward's comprehension difficulties by the ways in which she facilitated his understanding. For example, she tended to chunk her talk with intra-turn pauses, repeat key words/phrases, and use full forms rather

than ellipsis. Feedback regarding these beneficial adaptations was provided. In terms of potentially problematic areas, the analysis suggested that Edward was particularly vulnerable to comprehension difficulties when Maureen did a topic shift, as described in the next section.

6.1.2. Pre-therapy analysis of Maureen's topic shifting

The following three extracts illustrate the comprehension difficulties that Edward appeared to have when Maureen shifted the topic. There is evidence that repair (both self- and other-initiated) occurs relatively frequently when one speaker shifts the topic (Schegloff, 1979). In this study, it is a pattern that is seen also in the data from David and Bonnie (see Section 5.2), and it maybe a phenomenon that occurs more frequently in conversations involving people with aphasia, particularly when this affects the person's comprehension skills. Some behaviours that are characteristic of topic shifting have been described. These include one speaker summarising the previous topic, sometimes in the form of an idiom, the listener acknowledging the summary, and the new topic being introduced, sometimes after a brief delay, and prefaced with a signal to mark that a new topic is about to be introduced (e.g., "anyway", "so", etc.) (Drew & Holt, 1998).

In extract 6.1, the first topic was their daughter who was travelling to a cruise ship to begin a new job.

Extract 6.1: A_2_2

275 M but she were she were just
 276 ↑worried about (2.5) ↑making
 277 sure she gets the ↑right bus
 278 [I think I'd be the ↑same (0.5)]
 279 [((moves hand over tabletop))]
 280 I mean I don't know how far
 281 ↑away it is (.) ↑really (.)
 282 the ↑air↑port(.) from the
 283 ↑po:rt (.) you see (0.2) it
 284 might be expen↑sive ↑might it
 285 E °I don't ↓know°
 286 (1.6)
 287 °I don't ↑know°
 288 (1.8)
 289 M-> I were ↑talking to Mary and
 290 ↑Ar↑thur last night
 291 (0.5)
 292 E-> who's that
 293 (1.1)

294 M-> Mary 'n ↑Ar↓thur
 295 (0.9)
 296 E-> I don't know who [that]
 297 M [JONESY]
 298 (0.5)
 299 E oh ↓yeah
 300 (0.4)
 301 M ↑yeah? (0.3) and they've just
 302 M come off a ↓cruise ↑last
 303 ↓Sun↑day
 304 E =oh yeah (.) that's right (.)
 305 Yeah

Maureen's turn from lines 275 to 284 is a summary of what she has been saying about her suggestion to their daughter to get a cab for part of the journey. Edward response "I don't know" which he repeats after a 1.6 second gap (lines 285 and 287) is ambiguous and does not make it clear whether or not he has followed Maureen's talk. There is a 1.8 second lapse in the conversation (line 288) after this before Maureen begins a new topic (line 289) which involves introducing the names of two friends. After a 0.5 second gap, Edward does an other-initiation of repair at line 292, saying "who's that". Maureen repeats the names of the friends, but Edward appears to continue having difficulty understanding, and he does another other-initiation of repair at line 296. Maureen responds, beginning in overlap, by redoing her turn and this time Edward's turn begins with a news receipt "oh yeah" which displays that he is now following (line 299). As the sequence unfolds, it becomes apparent that there was a topical connection, because these friends have just returned from a cruise. However, this topic shift was a trouble-source for Edward because of his comprehension problems.

Extract 6.2 is another example of a topic initiating turn by Maureen.

Extract 6.2: A_3_2

183 E well we ↑don't want to go ↑NOW for the
 184 ↑first SIX MONTHS TIME (.) do ↓we (0.9)
 185 from ↑now
 186 (0.6)
 187 M well ↑not un↑less she can get some
 188 ↑dis↓counts
 189 (.)
 190 M-> see them [BIG BIRDS are BACK]
 191 [((points outside))]
 192 (1.7)
 193 E [((knocks on the window))]

194 M [look at it (.) it's a ↑jackda:w]
195 (1.2)
196 it's a ↑jack↓da:w look
197 (.)
198 E I know ((knocks on window)) it's ()
199 [((gets up and goes to the door))]
200 M [uh huh huh huh her]
201 (4.5)
202 it's g[one]
203 E [gone] (.) gone
204 (4.2)
205 M-> well I'm ↑glad it's a ↑ni↓cer ↑day
206 (1.4)
207 E-> it's ↑what
208 (0.6)
209 M-> I'm glad it's a <↑ni:↓cer ↑da:y>
210 (0.4)
211 E-> yeah (0.5)
212 (2.7)
213 [↑yeah]
214 M-> [and]
215 E ((sits back at the table))
216 M-> y-your ↑gla↓sses need ↑pick↓ing up from
217 ↑DON↓caster
218 (0.3)
219 E ↑when? ↑what are they ↑done ↓now
220 M (0.5) they're done
221 (0.3)
222 they ↑need picking ↑up
223 (0.6)

In extract 6.2 Maureen initiates a new topic at line 190, about some birds outside the window, which she accompanies with a non-verbal behaviour, i.e. pointing. The topic shift is relatively abrupt in that it has not been preceded by any of the typical behaviours associated with topic shifting and the fact that Edward does not display comprehension difficulties by doing an other-initiation of repair or a turn that does not appear to be sequentially relevant, suggests that Maureen's non-verbal behaviour may have been sufficient to enable him to follow this topic shift. However, when the next topic is initiated, Edward does display difficulties. Maureen closes the topic of the birds at lines 202-204, when she says "it's gone". Edward does an agreement "gone (.) gone" which he begins in overlap and there is a 4.2 second lapse. Maureen then initiates a new topic at line 205, but after a gap of 1.4 seconds, Edward does an other-initiation of repair "it's what" (line 207), indicating that he is treating Maureen's topic initiating turn as problematic. Maureen redoes her turn and this time Edward does an agreement (line 211) which he repeats after a 2.7 second gap, at line 213. As Edward does his turn at line 213, Maureen begins a turn in overlap in which

she does another topic initiation (line 214). Edward's response to this is sequentially relevant, and does not display comprehension difficulties.

In extract 6.3 Edward's comprehension difficulties are displayed when Maureen shifts the topic at line 031.

Extract 6.3: A_4_2

012 M = it ↑finishes smoo:th (0.5) but it says you
 013 have to wet your (.) you have to wet
 014 your (1.4) your ↑scrapper
 015 (0.5)
 016 E -kay
 017 (1.2)
 018 that's a ↑big one on ↓there now (0.2) I'll
 019 just do ↑bit (0.5) but we've got a ↑first ↓one
 020 M-> =yeah (0.5) just (.) if if you come ↑all't
 021 -> way ↓down doing that ↑big crack ↑first
 022 -> (1.3)
 023 and then go ↑back up ↑aft↓er when it's ↑dry:
 024 (3.0)
 025 'coz I think doing it ↑twi:ce'll be ↑quick↓er
 026 (0.6)
 027 E-> Yeah
 028 -> (2.7)
 029 -> all right
 030 -> (2.9)
 031 M-> could do with a little (0.4) a little
 032 -> ↑poly↓filla knife ↑really (.) ↑couldn't
 033 -> You but w=
 034 E-> =what d'you [↑mean?]
 035 M [we've] ↑got one ↑some↓where (.)
 036 ya ↑kno:w
 037 (0.2)
 038 E What
 039 M a ↑pro↓per little ↑fill↓ing ↑kni:fe.
 040 (1.9)
 041 i-i-it's ↑thinn↓er at the ↑end than ↑that
 042 (0.8)
 043 that gets too much ↑stuff out of the ↑tub
 044 (2.4)
 045 E ↑oh well ↑that's filling ↑up that ↑now that
 046 M ((bends and picks something up from the
 047 floor))
 048 (5.4)
 049 E () the ↑car↓pet ()
 050 (2.5)
 051 M °yeah°
 052 (0.7)
 053 E what you ↑do about ↑that?
 054 M ((stands watching E))
 055 (4.7)
 056 E °right I'll ↑do it on the ↑oth↓ers°
 057 ((continues filling wall))
 058 (5.5)
 059 M [↑come down ↑here now (0.6) down ↑that one

060 [((stepping forward, gesturing to the area on
061 ↑there]
062 the wall that she is referring to))]
063 (10.6)
064 be a lot ↑bett↓er ↑won't it
065 (1.2)
066 E oyeaho
067 (3.0)
068 M it's a ↑pity we ↑haven't got a little (0.3)
069 YOU ↑HAVE ↓GOT a little ↑fill↓ing ↑knife in
070 your ↑tool box (.) ↑haven't you
071 (1.5)
072 E-> I ↑DON'T ↓KNO:W (.) I don't know what you're
073 (2.0)
074 M [it's ↑like them (.) it's ↑like one of them
075 [((stepping forward, reaching up to gesture to
076 only ↑thinn↓er]
077 the tool E is using))]
078 E yeah but ↑WHY? (0.2) I ↑don't I [↑don't know]
079 M [to ↑make it]
080 ↑easier for you to ↑get the ↑stuff out of the
081 ↑tub and ↑every↓thing and (0.2) ↑then it's not
082 ↑squel↓ching ↑every↓where
083 (0.7)

Throughout this extract, Edward is decorating and Maureen has been making suggestions about how he should apply filler to a crack in the wall, which she completes in her turn from line 020 to 025. Edward does a minimal turn at line 027, then after a 2.7 second gap, he says "all right" (line 029). There is a lapse of 2.9 seconds then Maureen does a topic shift, introducing the idea of a "polyfilla knife" (lines 033-035). Edward comes into Maureen's turn space to begin an other-initiation of repair, saying "what d'you mean" (line 034). Maureen begins her next turn (lines 035-036) before Edward has finished and he does another other-initiation of repair, this time an open class "what" (line 038), displaying that he is having trouble following Maureen's talk. Maureen does some repair work from lines 039-043, but it is not clear from Edward's next turn (line 045) whether he has understood her or not, because his turn is moving the talk on. However, a few turns later, Maureen again refers to a filling knife (line 068-070) and this time Edward's turn seems to display that he has still not understood what she is talking about, and the increased volume of his talk at line 072 suggests that he may be becoming agitated.

6.1.3. Therapy targeting Maureen's topic shifting

Maureen's methods of shifting topic were identified as a potential goal for therapy as they appeared to leave Edward vulnerable to comprehension problems. The therapy began with some discussion of topic shifts generally as a place where listeners with no communication impairment tend to display difficulties (Schegloff, 1979). There was discussion of the steps that are typically used by speakers to close one topic and initiate another, i.e. summarising the first topic, the listener acknowledges this, and indicating that they are also ready to close the topic, potentially a lapse in the talk before a new topic is introduced, often with a word or phrase to mark it as beginning a new topic (e.g. "so", "right", "anyway": Drew & Holt, 1998). The next stage involved reviewing video clips of Maureen's topic shifts and Edward's responses, and analysing why some appeared more problematic than others. The therapy activity to practise new topic shifting behaviours was done in steps. The first step comprised the clinician modelling exaggerated topic shift behaviours while conversing with Maureen, who was required to indicate when the topic shift by holding up a card. Edward was asked to observe this until he displayed that he understood the task. Then he was asked to listen to the clinician talking with Maureen, attending particularly to the lapse and the "marker" (i.e. the "so" or "well" or "anyway") and, when he noticed these, to indicate that the topic had shifted by holding up a card, as Maureen had done. Edward was able to do this successfully, so the next step was for Maureen to practice doing the topic shifting behaviour herself, in an exaggerated manner and for Edward to indicate when he noticed the topic shift.

The couple practised this between sessions until Edward appeared to be following and then the therapy focus moved to normalising the behaviours, so that Maureen still did the topic shifting steps, but more subtly. Maureen reported that when she practised she used gaps and markers such as "*so anyway ...*" or "*can you remember ...*". She reported that "*it works well*" and that Edward "*doesn't seem to notice what I've done*" and that "*when I explain what I've done he doesn't really understand but he says he does*". She also said that Edward was not doing other-initiations of repair, although he did not always let her know explicitly that he had noticed the topic shift.

6.1.4. Post-therapy analysis of Maureen's topic shifting

The couple video-recorded just under 75 minutes of conversation in the post-therapy stage, 21 of which were transcribed. It was hypothesised that there would be

073 E-> What,
 074 (0.4)
 075 M <Your reading's quite a bit better> (.)
 076 to [know] the da:::tes,
 077 E-> [Yeah]
 078 E Yeah it is yeah (0.4) yeah (0.4) so that one
 079 is tomorrow is that one
 080 M Yeah
 081 E () (weather)
 082 M-> It's definitely be- er better,
 083 (0.4)
 084 E-> (Paris) its wha:t?
 085 M Your reading's be- a lot better than it
 086 wa:s
 087 E-> (Does it) do you think so::,
 088 M ↑Mm:::, (.) definitely,
 089 (0.4)
 090 E Ri::ght,
 091 (0.6)
 092 M You've not had time to do: (.) erm your
 093 other work for ↑To::m, (0.4) this [↑wee:k,]
 094 E [()]
 095 E (Really) (get hold of) it the:n,
 096 (0.4) (where's me pen,)

He begins another turn (line 069) with "but", then leaves a 0.4 second pause after which Maureen shifts the topic to Edward's reading ability (line 071-072). In this example, Maureen has not summarised the prior topic or sought any acknowledgement/agreement from Edward to close the topic, and although there is a 0.4 second gap, this is not a lapse between topics as Edward had effectively claimed the turn space with his "but" at line 069. Finally, in this extract there is no evidence of Maureen prefacing her topic initiating turn with any kind of marker to alert Edward that something new is about to be introduced. Edward does an other-initiation of repair, apparently displaying difficulty following the topic shift, when he says "what," (line 073). Maureen redoes her turn and when she is midway through Edward does a "yeah" in overlap, which he repeats when she has completed her turn, before reverting to talk about the original topic, i.e. the Tour de France again. Because Edward returns to the original topic at line 078, it is arguable that his "what," at line 073 could represent a 'why that now' question (Schegloff & Sacks, 1973) rather than a problem with the linguistic content of Maureen's turn. That is to say, Edward may be doing a question (or even doing a complaint) because he is in the middle of talking about the cycle racing when Maureen introduces what may appear to him to be a non sequitur. Maureen pursues the topic of Edward's reading skills at line 082 and Edward responds, again, with an other-initiation of repair (line

084) and it is not until his turn at line 087 that he seems to display that he is following the topic that Maureen has initiated.

In extract 6.5 the first topic is the difference in building styles between the UK and the USA.

Extract 6.5: B_2_2

023 M They ca- (.) althou:::gh, (0.4) I ↑think
 024 (.) this ne::w o:ne (0.8) that <Denise's> got
 025 an I don't think it is ma::de of timbe:r
 026 (.)
 027 E Ri:ght,
 028 (0.4)
 029 M .hh I think they all seem to have cla- (.) a-
 030 they all seem to have cladding on do::n't
 they,
 031 (0.4) like a cladding on the [fro:nt]
 032 E [Y- you] did (.)
 033 (°I do:n't°)
 034 M ↑Mm::,
 035 E-> (Probably) used to be but I ↑don't kno:w (.)
 036 >it doesn't< ↑matter does i:t
 037 M-> No:::, (.) ((yawns))
 038 E-> I don't know
 039 M-> ↑U::h hhh so:: (0.6) I I need to >ring me dad<
 040 up in a bit too (I ain't) spo::ke to 'im for
 041 a whi:le I'm [gonna ring] 'im,
 042 E [(So (.) I know]
 043 (.)
 044 E Ri::ght (0.4) so where are we doing our
 045 (three week no:w,)
 046 M Mm, (.) three week toda::y, (0.6) but we'll
 047 set off on the Mo:nda:y,

Edward effectively closes the topic when he says "probably used to be but I ↑don't kno:w (.) >it doesn't< ↑matter does i:t" (lines 035-036) with Maureen's "no:::," acting as an agreement to close that topic. The purpose of Edward's "I don't know" is ambiguous and rather than initiate a repair or pursue the topic of building styles, Maureen lets this pass and initiates a new topic at line 039. In this example, there is no lapse between topics, but Maureen does begin her topic initiating turn with a potential marker to alert Edward that something new is about to be talked about when she does "↑uh:: hhh so:::" followed by the 0.6 second pause. In this instance it is ambiguous whether or not Edward follows the new topic. His "so (.) I know" in overlap with Maureen's topic initiating turn (line 042) could be

sequentially relevant, but he follows this by beginning to talk about their forthcoming holiday (line 044) without returning to the topic of Maureen telephoning her father.

In extract 6.6, Maureen's turns do follow the topic shifting behaviours, but are perhaps not sufficiently exaggerated to alert Edward that a new topic is to be introduced.

Extract 6.6: B_3_2

071 M Anyway they're busy (.) they're busy so
 072 tha::t th- they're not coming
 073 E Oka::y then
 074 (0.4)
 075 M [U::m,]
 076 E [Ri:ght] °alright°
 077 M-> So we'll see them when we come back
 078 (.)
 079 E-> Ri:ght
 080 (0.8)
 081 E-> Oka:y
 082 (0.4)
 083 M-> ↑U::m, (0.6) I want you to come with
 084 (me la::ter) t- I've not done Brendan and
 085 Jea:n's flowers
 086 (1.8)
 087 E-> Say that again
 088 M Brendan and Jea:n,
 089 (.)
 090 E-> Who's that,
 091 M our friends (.) Brendan and Jea:n
 092 E Which ones
 093 (1.8)
 094 E [(which) ()]
 095 M [Who WHO'S] our mai:n friends on `e:re
 096 (0.4)
 097 E Which ones
 098 M Who are our mai:n fr[iends] on [this] si::te,
 099 E [Ye::s] [Yes]
 100 E-> Yeah (0.4) wh- wh- oh yeah yeah [() right]
 101 M [They're on]
 102 ['olid]ay at the mo:ment
 103 E [Right]
 104 E Yeah yeah
 105 M ↑Yeah?
 106 E Yeah
 107 (0.4)
 108 M Ri:ght (.) well they need their flowers
 109 wa:tering because it 'asn't rained all wee:k,
 110 E ↑Oh () (.) yeah
 111 M So if we 'ave a walk up to the caravan
 112 E °Yeah°
 113 (0.4)
 114 M You can `elp me to do `em a::ll

115 E °Yeah (.) alright,° (.) °alright°

The first topic in extract 5.6 is family members who are expected to visit before the couple go on holiday. Maureen summarises that topic at line 077, and Edward appears to agree that the topic is finished with his turns in lines 079 and 081. After a short gap (0.4 seconds: line 082), Maureen begins her turn with "↑u::hm," and an intra turn pause of 0.6 seconds, before initiating the new topic of watering some friends' plants. Edward displays difficulty with this when he says "say that again" (line 087 and then "who's that," (line 089). This new topic is not established until line 100, when Edward's "Yeah (0.4) wh- wh- oh yeah yeah () right" seems to indicate that he is now following. In this case, Maureen's subtle use of the steps associated with shifting topic was, arguably, not sufficient to enable Edward to follow. Although Maureen does display that she is using the topic shift behaviours practised in therapy in this example, this was not something that she did in a systematic way throughout the post-therapy data.

Edward and Maureen video-recorded just under 57 minutes of conversational data at the maintenance stage, of which just over 22 minutes were transcribed. This data was consistent with their immediate post-therapy data in that there was no evidence of any systematic changes in the methods that Maureen used to shift the topic of their conversations.

6.1.5. Other pre-therapy behaviours

Other behaviours were identified in the pre-therapy data as potential areas for therapy. However when these were raised with the couple, Maureen reported that she believed that the behaviours displayed on the video-recordings were untypical of their usual conversational patterns. For example, in the video-recordings Edward displayed a reliance on minimal turns and a strong pattern of letting opportunities to take a turn pass. This had the effect of creating the impression that Maureen was the main talker and that she took responsibility for keeping conversations going. However, when this was raised as a potential therapy target, Maureen reported that Edward generally talked at length and the evidence of him using minimal turns rather than fuller turns, was not representative. Similarly, the analysis indicated that Maureen tended to be the one who initiated topics, but when this was raised, she

reported that Edward normally initiated topics equally and that this was not a problem for them. The couple kept records of each of these behaviours for one week and their resulting self-report indicated that Edward did talk more outside the video-recordings and was competent at initiating topics. For example, they reported that one occasion while they were watching a television programme about Osama Bin Laden, Edward initiated some talk about the twin towers, (a topic that was related to what they were watching). On another occasion, they reported that he had initiated a conversation about the fact that all their clocks were showing different times. Another area that was suggested as a possible therapy target was Edward's tendency not to do other-initiations of repair on Maureen's talk, but to let her go on talking in relatively lengthy turns so that if he did other-initiate repair, Maureen had no way of knowing which part of her turn needed to be repaired. Again, the couple maintained records of this behaviour for one week and their self-report indicated that Edward frequently initiated repair on Maureen's talk.

6.1.6. Post-therapy

When the couple was interviewed post-therapy, Edward said very little, and tended to talk about the assessments more than the therapy, possibly because he had found the therapy itself difficult to understand, and very different to the impairment-based therapy he had been having from an NHS clinician. Maureen's comments focused on the degree of detail, which although not stated explicitly, seemed to be a negative aspect for her. For example, she reported that she had found the therapy had been *"very in depth"* and said: *"anything where you've got to analyse something can be a bit tedious can't it and I think but you just have to keep going with it and then it kind of fits into place ..."* It is possible that Maureen had found the therapy too theoretical, and this may account to some extent, for the lack of change that was seen in their post-therapy data. Talking specifically about practising the topic shift behaviours, she stated: *"I think when we had to keep doing you know when we were doing the gaps and that it seemed to keep going on for a long time, maybe it had to be like that to reinforce it but it felt like a long time, 3 weeks or something but maybe it had to be like that to for it to be useful ... for somebody else it might not be like that but at least having said that it does reinforce it in your mind and any kind of learning or anything's like that isn't it you keep thinking 'oh not that again' ... but it's in there then isn't it ..."* This is interesting in the light of the lack of change.

Maureen's comment implies that the amount of practising reinforced the behaviour, and yet there was no evidence that the couple was implementing this in their conversations although Maureen was clearly talking about the topic shift behaviours, when she said *"the gaps between subjects uhm and making sure that he has understood ... you know like the stuff we did 'remember yesterday when we did such and such, well...' so that he knows the subject that I'm going to be getting on to and like sometimes if we haven't spoken for a while and I want to start a conversation it's no use just jumping straight into a conversation I need to kind of let him know I'm going to be talking about something ... if I think he's not really listening and he's going on with whatever, I sometimes say 'Edward (taps table) what I'm saying is...' because I know that he's just going off on completely the wrong track ..."*. Based on these comments Maureen clearly understood the therapy activity, and its purpose in terms of assisting Edward to follow topic changes.

The CAT disability profile was re-administered after therapy. Edward's pre-therapy self-reported t-score reduced from 59 to 57, while Maureen's t-score reduced from 47 to 45. Both pre- and post-therapy t-scores were within one standard deviation of the mean for people with aphasia (mean = 50, SD = 10).

6.2. David and Bonnie

6.2.1. Background

David (aged 61) was four and a half years post onset of stroke when he joined the study with his wife, Bonnie (age 61). David's BDAE (Goodglass, et al., 2001) score resulted in a profile of moderate Wernicke's aphasia (see Figure 6.2). David was the most severely impaired of the eight participants in terms of picture naming with a score of 5 out of 60 on the BNT (Kaplan, et al., 1983) score (age dependent mean = 53.3). His speech had normal intonation patterns and he incorporated appropriate grammatical forms. On the Pyramids and Palm Trees (3 picture: Howard & Patterson, 1992) David scored 47 out of 52, placing him equal lowest with three other participants in this study, and just outside the normal range (i.e. 49/52). David was not able to read aloud any of the words from the PALPA 31 (Kay, et al., 1992) and this was abandoned. He declined to attempt the Cinderella narrative, indicating that he was unable to produce any words. On the cognitive assessments, David

displayed strengths, in abstract reasoning and visual skills. His score on the Ravens CPM (Raven, 1962) was above the 95th percentile (31 out of 36) and he scored above the 99th percentile on both the immediate and delayed recall for the RCF (Meyers & Meyers, 1995). However his score on the TEA with distractions (Robertson, et al., 1994) was between the 10th and 25th percentile, which, although within normal limits was relatively poor when compared with his performance on the RCF (Meyers & Meyers, 1995), and was equal lowest with three of the participants in this case series. On the CAT-DP (Swinburn, et al., 2005) David's rating of the impact of his aphasia resulted in a t-score of 42 which is within one standard deviation of the mean, but represented the second most severe score for participants with aphasia in this study (mean for people with aphasia = 50, SD = 10). Bonnie's t-score for David was 45, and was the most severe score given by a partner in this study.

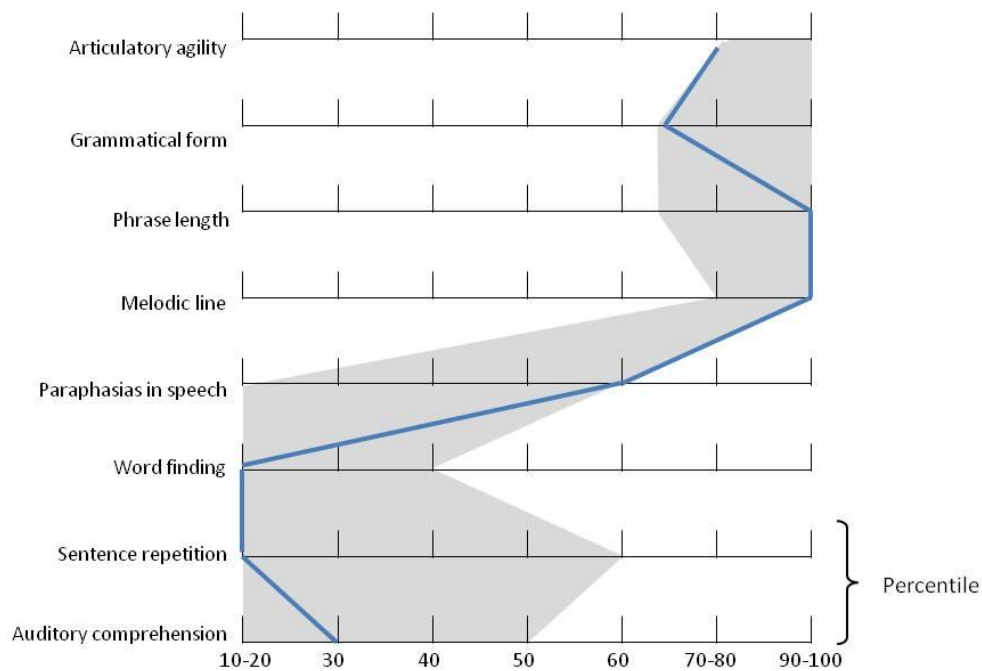


Figure 6.2: David's baseline BDAE profile

When the couple was interviewed, David indicated that Bonnie did a lot of guessing which he found helpful, but that relying on Bonnie to guess meant that getting his meaning across could take a long time. He said: *"slowly and then ... come here again ... no alright ... and then slowly again ... again"* and he agreed that this was frustrating. When he was told that he was resourceful in terms of thinking of alternative ways to convey things, he agreed, saying: *"oh yeah anything anything at all anything at all yeah ..."*. Bonnie also commented about how long it could take for David to convey things to her, and said that he was persistent and kept trying. She said: *"It can take a long time sometimes I mean sometimes it's not as bad now but in the beginning I mean sometimes if he was desperately wanting to tell me something and I didn't get it I could be sat here 2 hours because he just wouldn't let it go until ... and he does that now if you don't get it right away he'll turn around and say 'nevermind' but 5 minutes later he's back on the subject again he doesn't let it go"*. She described feeling that David seemed to think she could see what he was talking about *"you can see in his face he must think that people can see what he's trying to tell them coz that's the feeling I get when he's speaking with me that he can actually see this whatever it is he's trying to tell me and I can see it"*. In terms of what Bonnie felt her role was in relation to David's talking, she said *"stopping him being made to feel worse about it"*. And in terms of what Bonnie did when David had trouble understanding her, she said *"I probably try and think of something that might be related to what I'm talking about ... something that I think he might remember ..."*.

6.2.2. Pre-therapy analysis of conversation data

CA of this couple's data displayed evidence of adaptations to David's aphasia. David used a range of non-verbal methods to convey his meaning, including pointing to objects/places, gesturing (including iconic gestures such as for eating, drinking, swimming, and the gym), facial expressions and intonation. When he had difficulty understanding Bonnie, he did other-initiations of repair so that Bonnie was aware that he was not following and that she needed to do some repair work. Bonnie assisted David's comprehension by chunking her talk and repeating key words and/or phrases. She accepted all David's non-verbal methods of expressing his meaning, including following his eye gaze or the direction in which he pointed and recognising his gestures. Her typical methods of other-repair were to guess target

words or to verbalise David's meaning. She also used passing turns, apparently if she was unclear as to what David meant. When she did this, David would generally respond by attempting to self-repair.

Because the couple displayed adaptations in their conversational data that appeared to be positive and beneficial, and there was no evidence of patterns of behaviour that caused or exacerbated difficulties, planning the interaction-focused therapy for David and Bonnie was challenging. David's competence at using non-verbal behaviours and Bonnie's acceptance of these methods, most often enabled them to repair trouble sources and progress their talk with minimal disruption/difficulty and no evidence of distress. One component of therapy therefore was to provide feedback in terms of the positive behaviours that the couple displayed, to raise their awareness of what appeared to work. Bonnie expressed surprise on being told that not all couples develop the positive patterns of behaviours that she and David displayed. She reported that she had adapted her own behaviour because David had displayed much frustration with his aphasic difficulties in the past and she wanted to reduce this as much as she could. Two areas were considered as potential therapy goals and these are reported below. The first was modifying the way in which Bonnie initiated new topics to help David's comprehension. This target was similar to that identified for Edward and Maureen where Edward's comprehension impairments were also particularly evident when the topic was shifted. The second target was to introduce the possibility of Bonnie prompting David to use non-verbal methods when she did an other-initiation of repair, rather than relying on David to initiate a non-verbal method of repair himself.

6.2.3. Bonnie's topic shifting pre-therapy

There was evidence that David produced other-initiations of repair after Bonnie did a shift of topic, suggesting that this was a point in their conversations where he was vulnerable to comprehension difficulties. Repair (both self- and other-initiated) occurs relatively frequently when there is a change of topic (Schegloff, 1979) and this pattern is also evident in Edward and Maureen's data. and may occur more frequently in conversations involving people with aphasic comprehension difficulties. David's other-initiations of repair when Bonnie changed the topic resulted in Bonnie's topic shifting behaviours being identified as a therapy target,

with the possibility of reducing the likelihood of David experiencing comprehension problems when the topic was shifted.

In extract 6.7 Bonnie displays some of the characteristic behaviours associated with changing topic (Drew & Holt, 1998).

Extract 6.7: A_1_2

126 B-> (well) that's good
127 D alri:ght (there) (we have)
128 thing me one there (oh)
129 B-> what do you think, (.) do you
130 think she'll be oka::y,
131 if [I went]
132 [(points to self)]
133 y'know you and me
134 D Yeah
135 B and Donna
136 D Yeah
137 B instead of Terry
138 -> (4.4)
139 D-> [why?]
140 [(puzzled expression)]
141 B becau::se in (.) about
142 [five wee:ks]
143 [(holds up 5 fingers)]
144 D Yeah
145 B I'm going to be working weekends again
146 (1.9)
147 D o:[:h]
148 B [y'know] where one week I work
149 [Wednesday Thu:rsday] so you'd
150 [(pointing on fingers)]
151 be going with Terry
152 (1.5)
153 D ye↑a:h

In this extract, Bonnie summarises the topic that they have been discussing (line 126), and David appears to accept this (line 127-128) and she then shifts the topic (line 129). Her topic shift comprises a question, which she produces in chunks, with a pause (line 129), then a reformulation of the question, which appears helpful to David. Bonnie incorporates a gesture (line 132), apparently also to assist David's comprehension. David responds with two minimal turns (lines 134 and 136), and it is ambiguous whether or not he is following Bonnie until line 138, where the gap of 4.4 seconds suggests there is a problem and David's "why" (line 139) displays that he is having difficulty. Arguably, David's difficulty here may be understanding "why that now?" (Schegloff & Sacks, 1973) rather than understanding the content of Bonnie's

talk per se. In other words, he may understand the words that she is saying, but he may not understand her motivation for saying those words at that point in the conversation. However, it is one example of David appearing vulnerable to understanding problems when there is a shift of topic.

In extract 6.8, there is another example of David displaying comprehension difficulties when Bonnie shifts the topic, despite the fact that she uses some of the typical topic shifting steps.

Extract 6.8: A_1_2

145 B I'm going to be working weekends again
 146 (1.9)
 147 D o:[:h]
 148 B [y' know] where one week I work
 149 [Wednesday Thursday] so you'd
 150 [((pointing on fingers))]
 151 be going with Trevor
 152 (1.5)
 153 D ye↑a:h
 154 B and then [the week after]
 155 [((gestures))]
 156 I'd be working Saturday and
 158 Sunday
 159 D ag↑ai::n
 160 B-> yeah so Trevor won't be coming
 161 Wednesday and Thursday
 162 D [((facial expression of surprise))]
 163 [(3.1)]
 164 D a::h
 165 B-> so no Bridgewater£
 166 D What
 167 B no Bridgewater £dinner£
 168 D ((humorous facial expression - displeasure))
 169 B hah hah hah hah hah hah hah hah
 170 but its only every two weeks hah hah
 171 hah hah hah hah hah hah
 172 D hmm:::

In extract 6.8 Bonnie has been explaining to David that her working hours are going to change and therefore the days that his Personal Assistant (Trevor) comes will also change. She summarises this topic (lines 160-161), then leaves a gap of 3.1 seconds during which David's facial expression is one of surprise. He then says "a::h" (line 164) apparently as an acknowledgement. Bonnie shifts the topic (line 165) with "so no Bridgewater", and David does an open class other-initiation of repair (line 166) indicating that he is having difficulty following Bonnie's prior turn.

Bonnie redoes her topic shifting turn, adding "dinner" and David's response, a humorous look of displeasure (line 168), indicates that he understands.

In extract 6.9 there is another example of David appearing to have difficulty following a shift of topic by Bonnie.

Extract 6.9: A_2_2

165 (5.9)
166 B then I'll just go (.) after that I'll
167 just go to the bank
168 D Yeah
169 B-> I might pop into Co-op
170 -> (2.5)
171 B coz I need something for my
172 D co-op
173 B I need something for butties for work
174 D ((nods))
175 B haven't got anything coz we haven't
176 been shopping
177 D a:h alright
178 B (then we can) come home
179 D-> where (thing me one)
180 B co-op
181 D (co-op)
182 B-> [this co-op] in Reading
183 -> [((points))]
184 D-> oh yeah oh yeah [co-op]
185 B [don't]
186 really need to go anywhere (.) else
187 D Nah
188 (2.9)

Bonnie has been talking about some errands they need to do the next day and at line 169 she introduces the idea of going to the Co-op. David doesn't respond and after a 2.5 second gap, Bonnie does an account for what she said in line 169. David responds by repeating "co-op" (line 172) and Bonnie adds more information in lines 173 and 175-176. David appears to agree (line 177), but at line 179 his "where" seems to display that he has not followed Bonnie's prior turns. She says "co-op" (line 180) which David repeats, and she then redoes the turn as "this co-op", this time also pointing and adding "in Reading" (lines 182-183). David's use of the news receipt "oh" (Heritage, 1984a) in his next turn ("oh yeah oh yeah co-op": line 184) seems to display that he is now following.

6.2.4. Therapy targeting Bonnie's topic shifting

In terms of interaction-focused therapy one target was Bonnie's topic shifting behaviours. Bonnie, David and the clinician reviewed video clips where David appeared to display difficulty following topic shifts. Bonnie and the clinician then discussed the typical steps that speakers take to collaboratively close down one topic and initiate another, termed 'topic transition sequences' (Drew & Holt, 1998), described in Section 6.1.3 above. It was noticeable that David did not engage in the discussion between Bonnie and the clinician, and when he was asked for his opinions he tended to indicate that he had no view, e.g., saying "never mind" or "doesn't matter" so it was unclear whether or not David followed this discussion. The therapy, which was similar to that designed to target Maureen's topic shifting behaviours, comprised the clinician modelling the steps associated with topic shifting in an exaggerated form in conversation with Bonnie, then Bonnie practising using these steps while talking with the clinician. David was asked to indicate whenever he noticed that the topic had changed, but he appeared unable to understand this task and was not able to participate. After practising in the therapy session, Bonnie was asked to practise in at least two conversations the following week and keep notes about what happened.

6.2.5. Post-therapy analysis of Bonnie's topic shifting

It was expected that post-therapy there would be evidence of Bonnie doing topic shifts in a way that would alert David to the fact that the topic was being changed. Therefore, clear evidence of Bonnie producing a form of summary of the topic that she was closing down, a response from David to indicate that he was in agreement that the topic could be closed, a lapse and then a marker, such as "so" or "anyway" to alert him to the fact that what she was about to say would introduce a new topic was expected. However, as with Edward and Maureen, the post-therapy data contained was no evidence that Bonnie was doing topic shifts in a systematically different way to that seen in the pre-therapy data.

	Non-systematic topic shifts by Bonnie	Bonnie's topic shifts using the target behaviour of 'summarise, pause, alert'
Pre-therapy	5	2
Post-therapy	3	1
Maintenance	2	1

Table 6.2: Bonnie's topic shifts

For example in extract 6.10, the topic is how the couple will dispose of some building rubbish.

Extract 6.10: B_4_1

150 B He's trying to get rid of his own
151 Rubbish hah (.) hah hah hah
152 (.)
153 B He's got nowhere to put them
154 (.)
155 D Don't know may[be] alright there
156 B [na::h]
157 Like that (but) there
158 (.)
159 D [ah] alright
160 [((rubs face))]
161 B-> has it [stopped raining yet]
162 [((looks out of window))]
163 D Yeah [raining]
164 B [oh its not] so bad.
165 (,)
166 B It's not too bad [°I shall go and]
167 D [there like that]
168 B Do that and then I can get on
169 With something else
170 D Very good yeah
171 B What are you doing today
172 D I'm going [there as well] now
173 [((points))]
174 B What painting
175 D Yeah painting now
176 B What now
177 D Yeah
178 B ↑oh
179 D Painting now
180 ()
181 D Thing me one now
182 (.)
183 B [(0.4)]

184 [((looks at watch))]
 185 D °(right)° (.) alright
 186 B-> (We've) got a couple of hours
 187 D-> Yeah
 188 -> (.)
 189 D-> †who oh yeah
 190 B-> Couple of hours
 191 D Yeah
 192 B (and) you have to have something for
 193 Dinner
 194 D Ye:ah (.) [what there like that]
 195 [((looks at B))]
 196 B What for dinner
 197 D ye↓ah
 198 B I don't know just have a sandwich
 199 Or something
 200 D s- alright yeah (°s-) very good°

David brings this topic to a close with his turns at line 155, 157-160. Bonnie does not do an agreement token after David completes these turns, neither does she signal that she is about to change the topic. Instead, at line 161 she asks a question about the weather, to which David does a sequentially relevant response, displaying no evidence of difficulty understanding. Arguably, by providing an environmental cue (i.e., looking out of the window as she asks her question), she supplements her talk in way that is sufficient for David to follow the new topic. This new topic is developed to line 185, when David's "(right) (.) alright" effectively closes the topic about his painting. Bonnie again shifts the topic without signalling that a new topic is about to be introduced. On this occasion, David displays difficulty following, but this is delayed because he does an agreement "yeah" (line 187) first, then, after a micropause does an other-initiation of repair ("†who) and then a news receipt (Heritage, 1984a) ("oh yeah") indicating he has understood. Bonnie's redoes part of her potentially problematic turn in line 190, possibly because despite David's apparent news receipt and agreement ("oh yeah"), repetition is an habitual behaviour that she uses because of David's comprehension difficulties.

There is another example of a topic shift in extract 6.11.

Extract 6.11: B_2_1

021 B [what (are)] we talking about
 022 D [(all)]
 023 D Anything at all
 024 B Oh you mean you can't think of

new topic, then David does a turn, but it is unclear what he means. At line 033 Bonnie initiates a new topic about a friend called Trevor. David comes into Bonnie's turn space with an open class other-initiation of repair (line 034), indicating that he is having difficulty following. Bonnie does not repair her turn until line 050-051, but instead goes on to contextualise her comment about Trevor. It is not clear from David's minimal turns whether he understands or not until his "yeah" at line 052 which displays that he is now following the new topic.

Extract 6.12: B_3_2

177 B £they won't say its rubbish£
 178 D No but there like that now
 179 See
 180 B Mmm
 181 D Thing me [one and go there that what] hah
 182 |((gesture out of shot)) |
 183 B [no no no no no hah hah hah]
 184 D Hah hah (why) there
 185 B No::
 186 D £al[right then£]
 187 B-> [hah hah] hah hah monkey
 188 D-> (aye)
 189 (.)
 190 D So:
 191 B-> (so) I'm going to watch the tennis
 192 -> final. Tomorrow
 193 D Yeah
 194 B Ye:ah at one o'clock
 195 D [Oh yeah there like that] yes
 196 B |((gestures tennis strokes))|
 197 D Oh yeah there like that
 198 B Are you watching it
 199 ()
 200 D Oh don't matter I am I'm not bothered me

David and Bonnie video-recorded 107 minutes of conversation at the maintenance stage, of which just under 22 minutes were transcribed. Bonnie shifted the topic three times during the transcribed sections and on one of those three occasions her topic shift followed the broad pattern of behaviour targeted in therapy, i.e. 'summarise, pause, and mark the new topic'.

6.2.6. Pre-therapy analysis of Bonnie's other-initiation of repair

The second pattern of behaviour in the pre-therapy data was Bonnie's other-initiations of repair, including open class repairs (e.g. "what"), guessing target words

and verbalising what she thought David was attempting to say. There was no evidence of Bonnie prompting David to use non-verbal behaviours to convey his meaning, despite this being a communicative method that was often effective. It was hypothesised that if Bonnie prompted David to use non-verbal methods to self-repair, he (or they collaboratively) may be able to complete the repair rather than abandon it, or complete it more quickly. For example in extract 5.13 a repair sequence is abandoned because they are unable to complete it.

Extract 6.13: A_3_2

115 (1.3)
 116 D and yet there like that thing me one,
 117 (2.1) [there like tha::t,]
 118 [((motions hand sideways))]
 119 B the roundabout is that
 120 D no:: thing me [one there like that]
 121 [((raises hand, looks up))]
 122 (to go) [(there and)] only one
 123 [((lowers hand))]
 124 [one] and [that's it]
 125 B [Yeah] | |
 126 [((circular motion))]
 127 D (that's it) () wer- [one and that's it]
 128 [((circular motion))]
 129 (.)
 130 D and there like that and (natch) and
 131 thing me one and thing me one there
 132 like that and o:h- [not there like that]
 133 [((shakes head))]
 134 oh never mind
 135 B-> what what's that
 136 D I don't know (never)mind (doesn't) matter
 137 B-> no:↓:: [tell me]
 138 D [((coughs, shakes head))]
 139 D Uhuh
 140 B-> (yes) so[::] (.) that was: quick
 141 D [yeah]

They have been talking about some roads that are closed, and David attempts to tell Bonnie something, beginning at line 116. Bonnie makes a guess at line 119, which David rejects, and attempts to self-repair, using verbal and gestural methods from line 120 to 134 when he seems to abandon his attempt, saying "oh never mind". Bonnie does an other-initiation of repair at line 135 "what what's that", but David does not pursue the repair activity, despite Bonnie's encouragement (line 137) before

she moves the talk on herself (line 140). This is an instance where David is unable to self-repair and Bonnie is unable to help. However, hypothetically, the couple may have been able to successfully complete the repair if David had used a different method, e.g. drawing, to give Bonnie more information to enable her to collaborate more effectively. David is able to draw (and has enjoyed art and painting classes since his stroke) so it is possible that drawing could represent another choice to enable the couple to complete repairs successfully.

In extract 6.14 a repair sequence is completed successfully by David's use of non-verbal communication.

Extract 6.14: A_1_2

```

010      (.)
011  B      (all the) while you've been up [painting ]
012  D      [and thing]
013      me one there like that
014  B->    What
015      (0.7)
016  D      [thing me one there ]
017  D      [((raises hand to mouth gesturing eating))]
018  B      what your burger
019  D      yea:h
020  B      you enjoyed that
021  D      o:h ye:[:s ]
022  B      [huh ] huh huh huh

```

Bonnie has just mentioned that she cooked the tea while David was painting. David's turn at line 012-013 is an attempt to comment on this, but Bonnie treats it as problematic and does an open class other-initiation of repair at line 014. After a 0.7 second gap, David begins a turn at talk simultaneously with producing an iconic gesture which enables Bonnie to guess that he is referring to the burger he had for his tea. In this instance, it is David's use of a non-verbal method for his self-repair that enables the repair to be completed, and, potentially. Bonnie could have prompted this in her turn at line 014.

In extract 6.15 there is another example of some problematic turns by David and a repair sequence that is resolved when David produces non-verbal communicative gestures.

Extract 6.15: A_4_2

108 B (0.3) I'm not sure, (.) I'll have to check
109 It with the diary (0.2) need to have a look
110 D m- d- just a thing [me one there like that
111 [(points, gestures
112 D though]
113 behind with thumb)]
114 B-> what Ji:mmy
115 D no::: (well) I don't know (who) [(he was)]
116 B [yeah Ji:]mmy
117 knows all abou[t it]
118 D [no::] I mean there like that
119 ((raises then lowers hand))
120 (1.5)
121 D thing me one or thing me one
122 B-> What
123 D [((gestures swimming))]
124 [(2.3)]
125 B-> swimming?
126 D ye[ah]
127 B [you] can't go swimming yet
128 D no but [there like tha:t]
129 [(points to foot, nods)]
130 B when its ↑better
131 D ye[↑ah]
132 B [>yeah<] (.) well Jimmy'll go:
133 (2.1)
134 B Jimmy said he'll still take you

David's turn at lines 110-111 is problematic and Bonnie does an other-initiation of repair in the form of a guess at line 114, which David rejects and (presumably) attempts to self-repair in his next turn (line 115). However, David's response indicates that she is misunderstanding him and he has another attempt at self repair using verbal and non-verbal methods (lines 118 to 121). Bonnie is still unable to understand and does an open class other-initiation of repair at line 122. This time David's responds with an iconic gesture that enables Bonnie to guess his meaning correctly. Arguably, it is possible that this repair sequence could have been completed sooner had Bonnie prompted David to try a non-verbal method earlier.

6.2.7. Therapy targeting Bonnie's other-initiation of repair

The second therapy goal was for Bonnie to include a prompt to David to use a non-verbal behaviour in her other-initiations of repair. This goal was suggested because David was successfully using non-verbal behaviours, but Bonnie tended to wait for him to do so, rather than suggesting that he try to act out, gesture, point, etc. and there was no evidence that the couple used drawing as a communicative method. Bonnie expressed some reservations about prompting David to use different methods to self-repair because she felt this would draw attention to his linguistic non-competence and because David was already using a range of non-verbal methods unprompted. She asked, for example, how long she should wait before prompting David to use a non-verbal method and the clinician suggested that Bonnie should use her own judgement, based on her knowledge of David and her awareness of his frustration with his difficulties, together with her own need at times to get to the end of a repair sequence.

To practice this behaviour, the couple engaged in PACE-type activities, using their own and the clinician's everyday objects (e.g. items of food, toiletries, keys, clothing, flowers). David was shown an object and if unable to name it, was asked to draw it. Bonnie or the clinician then attempted to name what he had drawn, and because his drawing ability was a strength, this was usually accomplished quickly. Bonnie was asked to think about prompting David to use non-verbal methods of communication, including drawing, during practice conversations between therapy sessions.

6.2.8. Post-therapy analysis of Bonnie's other-initiation of repair

In the 114 minutes of post-therapy data, there were 17 examples of Bonnie doing other-initiations of repair, including seven open class repairs (e.g. "what"), but there were no instances of her prompting David to use non-verbal methods to self-repair. Hypothetically, prompting a non-verbal method *may* have expedited these repairs, but in every case, David did this spontaneously after Bonnie had initiated the repair.

	Bonnie does an other-initiation of repair with no prompt for David to use nonverbal modality	Bonnie prompts David to use a nonverbal modality when she does an other-initiation of repair
Pre-therapy	10	0
Post-therapy	17	0
Maintenance	11	0

Table 6.3: Bonnie's other-initiation of repair

David was competent at drawing, so prompting him to draw may have resulting in David successfully resolving the repair. It is arguable that prompting a non-verbal behaviour would have highlighted David's linguistic non-competence more than Bonnie's open class repairs, because a turn such as "what" is a more natural form of other-initiation of repair, than something like "can you draw it", which would also involve having pen and paper to hand, and potentially delay the progressivity. Although there were no examples in the video-recordings of Bonnie prompting David to try a non-verbal method, she reported that she had asked David to draw something during one conversation between the seventh and eighth therapy sessions, when she was unable to understand what he was telling her. The drawing that David produced on that occasion is shown in Figure 6.3. Underneath his drawing, Bonnie had written: *"one of our fence panels blew down and David wanted to put it back and secure it with a bracket. He tried to explain what he wanted to do and I did know he wanted the drill but I didn't understand what he wanted to do with it. Hence the above diagram. We then proceeded to secure the fence panel."*

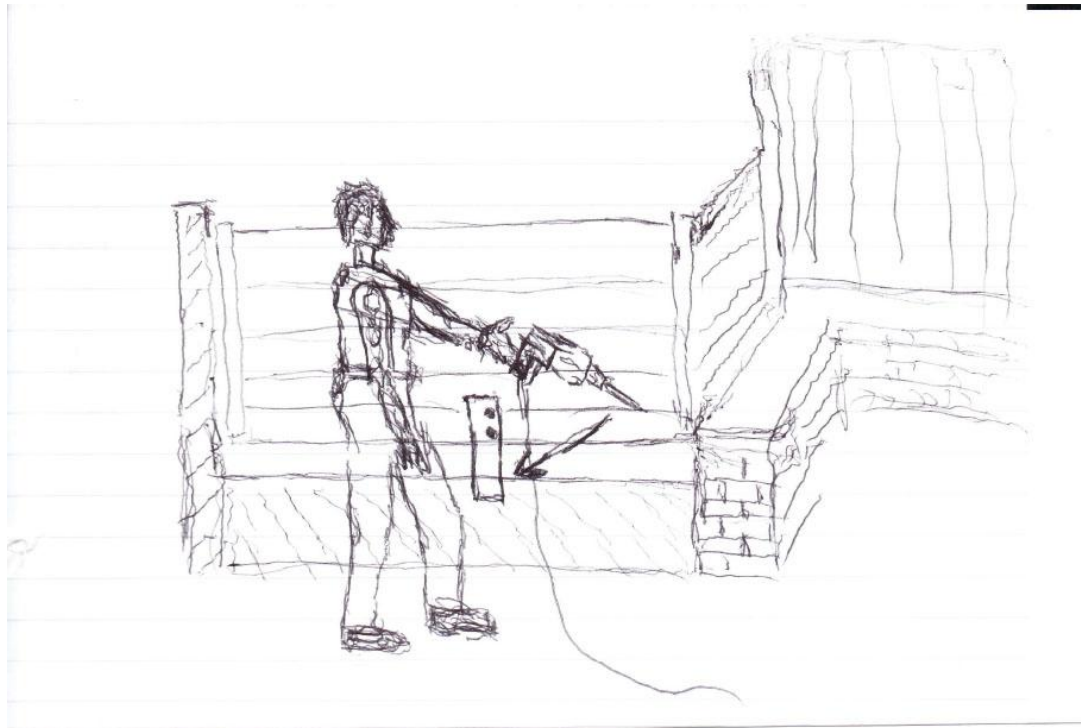


Figure 6.3: David's drawing after a prompt from Bonnie during a conversation between the seventh and eighth therapy sessions.

Extract 6.16 is an example of a repair that may have been completed successfully had Bonnie prompted David to attempt using a non-verbal method such as drawing.

Extract 6.16: B_3_2

001 D Yea::h (.) later
 002 B Mhm
 003 D and there like that a thing me
 004 One
 005 B-> What
 006 D Oh never mind
 007 B-> wh↑at
 008 ()
 009 D The thing me one [(there) too::]
 010 |((gesture out of shot))|
 011 B |((watching gesture)) |
 012 D There like that, () [up there (.)]
 013 |((pointing)) |
 014 like that [()] [never mind]
 015 |((looks at B))| |((looks away))|
 016 ()
 017 D [()] thing me one never [mind]
 018 |((glances at B))|
 019 B-> [what]

020 -> you want a picture you me↑an
 021 ()
 022 D [thing me one (as) a] [thing me one]
 023 [((pointing))] [((looks at B))]
 024 B You've got one
 025 D °y-° () yeah [(but) dere like that no:]
 026 [((pointing))]
 027 and thing me one [now]
 028 [((looks at B))]
 029 B Mmm
 030 ()
 031 D [oh] never mind
 032 [((looks away))]
 033 ()
 034 D Alright.
 035 (.)
 036 D So:: what d'you know then

In this extract Bonnie does open class other-initiations of repair at lines 005 and 007. David responds initially with "oh never mind" (line 006), but then attempts to self-repair using verbal and non-verbal methods from line 009 onwards. Bonnie guesses at lines 019-020 and David goes on attempting to self repair until he abandons this at line 036 saying "so:: what d'you know then", a phrase he uses in a stereotypical way to mean "what have you been doing" or similar. This repair sequence is unsuccessful.

In extract 6.17 there is another example of Bonnie doing an open class other-initiation of repair.

Extract 6.17: B_4_2

265 B Hah hah (.) £cheeky monkey enough
 266 for you£
 267 D thing me one then
 268 B-> What
 269 D Uhm [there like that
 270 [((gestures with finger and thumb))]
 271 (.)
 272 B Pasta
 273 D Yeah [pasta]
 274 B [yeah that's what I were] thinking

Without being prompted, David uses gesture as well as verbal methods in this extract to self-repair and his gesture is sufficient for Bonnie to guess his meaning at

line 272. In this example, Bonnie did not need to prompt David to use a non-verbal behaviour and the repair was resolved quickly in the next turn.

Of the 107 minutes of maintenance data that David and Bonnie video-recorded, just under 22 minutes were transcribed. There were 11 instances of Bonnie doing other-initiations of repair on David's talk across the transcribed excerpts, but no examples of her prompting David to use a nonverbal method.

6.3. Kenneth and Cathy

6.3.1. Background

Kenneth was 48 years old, and four years post onset of a stroke when he and his wife, Cathy aged 47, joined the study. Kenneth presented with severe Broca's aphasia, as evidenced by his BDAE profile (Goodglass, et al., 2001) (see Figure 6.4). Kenneth's score on the BNT (Kaplan, et al., 1983) was 9 out of 60 (age dependent mean = 56.8), the second lowest score of the participants in this study. On the Pyramids and Palm Trees (3-pictures: Howard & Patterson, 1992), Kenneth scored 47 out of 52, below the cut off for the normal range of 49, and equal lowest with three other participants. Kenneth's speech was effortful and tended to consist of single words and short stereotypical phrases such as "go on" or "carry on", both of which he used to let Cathy know that she should talk (e.g. by initiating a topic) or providing him with a model for a word he found problematic. Kenneth presented with some apraxia of speech that made his talk unintelligible at times.

Kenneth's score on the Ravens CPM (Raven, 1962) placed him at the 100th percentile, and on the Brixton (Burgess & Shallice, 1997) he made 13 errors, resulting in a classification of 'high average'. On the CAT-DP (Swinburn, et al., 2005) Kenneth's self-reported t-score was 49 (mean for people with aphasia = 50, SD = 10) and Cathy's t-score for Kenneth was 50, indicating a slightly milder perception of his disability. During the semi-structured interview, Cathy reported that she tended to talk for Kenneth, but said *"but I did before so that's not really changed"*. On another occasion, she acknowledged that she felt protective towards Kenneth and said: *"I don't like you to do things on your own, I'm quite controlling aren't I?"* She also described her frustration at the way other people react to Kenneth's aphasia, and said: *"Some people treat him as stupid because he can't speak"*. They both agreed

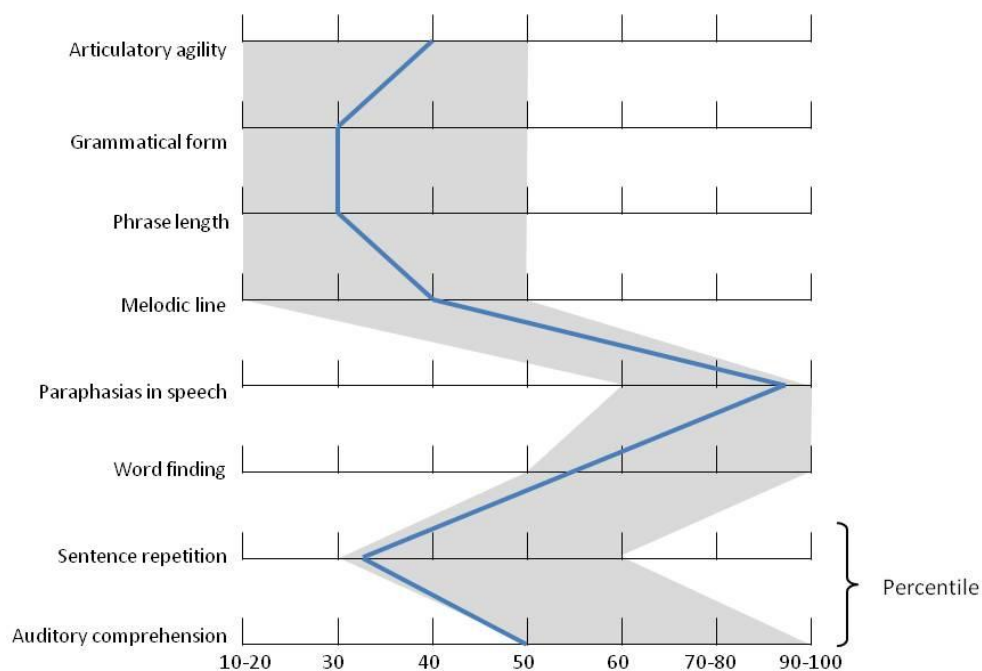


Figure 6.4: Kenneth's BDAE profile

that Cathy had always been the bigger talker of the two. Kenneth reported that Cathy did a lot to help him communicate, saying she did *"loads, but I cannot say"* (i.e., he could not explain or describe what she did). Cathy said that she thought that guessing and asking questions when Kenneth was struggling to explain things was helpful, but said that: *"if I get it wrong he gets really ratty and then I let him start again so he can start from scratch and get there"*. Cathy also talked a lot about the pressures that she had felt since Kenneth's stroke in terms of becoming the main breadwinner (which meant that in addition to her full-time job, she also had part-time work), running the home, making all the arrangements, doing DIY jobs, as well as the responsibilities for bringing up the couple's two sons, who were 13 and 18 at the time of Kenneth's stroke.

6.3.2. Analysis of pre-therapy conversation data

The couple video-recorded 229 minutes of conversation at baseline, of which 22 minutes were transcribed and analysed according to conversation analysis protocols.

Kenneth's conversational turns tended to comprise single words and short, stereotypical, phrases. There was evidence that he repeated words from Cathy's turns, which appeared to be a method that enabled him to produce a sequentially relevant turn without needing to retrieve particular words. For example, in one conversation, Cathy was telling Kenneth about someone she met and she said: "So that's funny me seeing that ↑Hazel today ↑in't it" to which Kenneth responded by saying "Hazel (.) Hay zel". The dominant pattern that was revealed by analysis of the data was that of Cathy asking Kenneth series of questions, including yes/no interrogatives, open and closed questions, and test questions. In addition, there was evidence that once Kenneth had responded to a question, for example with "yeah", Cathy would ask another question, usually after either no gap or a short gap, e.g. less than one second. This pattern had the effect of reducing what Kenneth could do in terms of sequentially relevant turns to such things as "yes", "no", "maybe" and other single words. Potentially, he could have expanded on these responses, however it appeared that the lack of any gap between Kenneth's response and Cathy's next question meant he did not have time to formulate further talk. This pattern of behaviour appeared to represent an adaptation to Kenneth's aphasia, with Cathy using questions to initiate and maintain conversations, and potentially, to make Kenneth's participation easier by making relevant yes/no-type responses.

6.3.3. Pre-therapy evidence of Cathy's use of questions

The pre-therapy data contained evidence of series of questions (i.e. Cathy asking one question, Kenneth responding, Cathy asking another question, Kenneth responding, etc.) that constrained the options Kenneth had in terms of how he responded. For example, Cathy often asked a "yes/no" question, Kenneth replied and Cathy asked another "yes/no" question which limited Kenneth to agreeing/disagreeing. Similarly, when Cathy asked closed questions, such as "you going in bus or car" (see extract 6.18, line 105), Kenneth was required to produce a single word only. When she asked questions that required Kenneth to generate a name, such as "so what other people were there?" (see extract 5.20, line 085), he tended to display difficulty, reflecting his impaired naming skills.

In extract 6.18, Cathy's questions at lines 100 and 103 require "yes/no" and her question (line 105) contains two words from which Kenneth needs to repeat either one.

Extract 6.18: A_1_2

100 C-> What are you doing the ga::rdening
 101 K Yeah
 102 (0.4)
 103 C-> What in O:ldham
 104 K °Yeah°
 105 C-> (You going in bus or ↑ca:r)
 106 (0.6)
 107 K Car
 108 C-> °Car° (0.6) can you pa::rk
 109 K °Mm° (.) ↑yeah
 110 C-> ↑Is it free?
 111 K Y- uhm (.) is for them ↑huh huh
 112 C Is [for them]
 113 K [I do:] [because I (go with them)]
 114 C [Ha ha ha ha ha ha ha ha]
 115 K ↑O:h loo::k (oh lock)
 116 C-> Oh right it is for them is it
 117 K Yea:h
 118 (.)
 119 C A:nd you
 120 (.)
 121 K ↑No
 122 (2.8)

At line 108, Cathy's turn includes an acknowledgement of Kenneth's prior response and another yes/no interrogative, followed with a further yes/no questions at line 110. Kenneth's response at line 111, seems to begin with a cut off "yes", quickly followed by "uhm" then a qualifier "is for them", which Cathy repeats (line 112), enabling Kenneth to expand at line 113 and 115, before Cathy asks a tag question at line 116.

In extract 6.19, Cathy is attempting to initiate a topic with a yes/no interrogative.

Extract 6.19: A_2_2

028 (0.6)
 029 C-> ↑Well (0.8) hhh so you watched any telly,
 030 K Telly no
 031 C °Nothing°
 032 (1.0)
 033 C-> ↑>Did you watch the< ↑footba:ll last night?
 034 (1.6)

035 C-> Oh no night befo:re wa:n't [it]
 036 K [Yeah] (m-) (it
 037 wa:s)
 038 C Yea:h
 039 (0.8)
 040 K [England]
 041 C-> [Oh yeah] it was the night before England
 042 -> (.) England and,
 043 (0.4)
 044 K Sweden
 045 C °Sweden ()°
 046 K Swe:den
 047 (0.6)
 048 C-> Who won?
 049 (0.4)
 050 K One (0.6) nil
 051 (.)
 052 C-> To who
 053 (.)
 054 K Engla:nd
 055 C ↑Oh that's good
 056 (1.4)
 057 C ↑Oh:, (0.6) oh yeah cos I remember (I rang)
 058 (.) Be:n- (.) u:m Ben rang didn't he and said
 059 don't ring him back becau:se,

In this extract, Cathy's turn at line 031 can be heard as checking Kenneth's response and she leaves a gap of 1 second before asking another question (line 033). Kenneth does not reply immediately and there is a 1.6 second gap, before Cathy self-repairs her line 033 turn, in the form of a tag question, which Kenneth responds to with "yes m- it wa:s" in lines 036-037, adding "England" (line 040), before Cathy asks a closed question in lines 041-042. Kenneth answers with "Sweden" (line 044) and Cathy repeats this in line 045. Cathy then asks "who won?" (line 048), but instead of answering Kenneth states the score (line 050) so Cathy redoes her question at line 052, and Kenneth responds with "England".

In extract 6.20, the couple is talking about who was at Kenneth's stroke club that day.

Extract 6.20: A_4_2

080 C-> ↑°Ri:ght° (0.6) w- wha- what what what e::rm
 081 (1.4)
 082 K [Do]
 083 C [They're] the volun↑tee:rs
 084 K [Ye]ah
 085 C-> [So] what [other] people were [there]?

could appear less communicatively disabled, as his naming difficulties may become less evident. However, it is also possible that by creating more space in the conversation for Kenneth to communicate, his disability could become more evident and there could be more need for Cathy to collaborate in repair activities, which may not always be successful.

To achieve the goal of reducing Cathy's use of questions, some of the therapy focused on education regarding different types of questions (i.e., yes/no, open, closed, tag and test questions) and the effect that questions have on what the responder can do in their turn. There was some discussion regarding the differences that were noted in the conversation that included the couple's son because during that conversation, Kenneth was not placed in the position of responding to questions and so he had more opportunity to produce comments and display his sense of humour. Video excerpts of that conversation and conversations between the couple speaking together were used to illustrate the differences and also to show how, when Cathy's turns did not comprise questions (e.g. when she made assessments), Kenneth was able to respond in a less constrained way (e.g. by agreeing or disagreeing). It was acknowledged that questions are often used by partners of people with aphasia as a way of initiating and maintaining conversations, and that 'test' questions can be used by partners, because the partner knows that they will be able to help the person with aphasia, if he or she has difficulty answering. Therapy focused on raising Cathy's awareness of her tendency to ask questions, and suggesting alternative turn designs that she could use in place of questions, including commenting, passing turns (e.g. "mmm") and leaving silent pauses. Activities included firstly, the clinician modelling alternatives to asking questions in conversation with Kenneth while Cathy observed. Then the couple had short conversations with the clinician giving online feedback and facilitating reflection afterwards.

At the beginning of the sixth session, as the couple reflected on the previous week's practising with the clinician, Cathy expressed concerns about the therapy. She said *"we are struggling with it a bit really because I know it's making Kenneth, it may be making Kenneth's conversation easier, it's not making my conversation easier" ... and "all its doing is making hard work for me ... that's not a criticism but I don't personally think it's working ... I'm finding it too hard to do ... it's very very difficult to do really coz all the time I'm thinking 'oh that's a question that's a question' and in the end I think 'oh I just really can't be bothered'"*. Cathy also

commented that having become aware of using questions, she sometimes listened to other people talking, and she observed that she *"studied them and nobody has a conversation without questions"*. This was discussed and explored. Examples of how Kenneth had surprised Cathy by some of the things he was able to say in the previous week's practise conversations were considered, but Cathy felt that *"I think if I'd asked you questions I think that conversation would have been the same"*. Kenneth was asked what his view was, but he was non-committal and said things like *"I dunno"* and *"maybe"*. At this point we considered how Kenneth's aphasia means he needs extra time to formulate his turns and that once he has done a 'yes/no' etc., Cathy may assume that he has no more to say, when, in fact, given more time, he could well wish to say more. Kenneth agreed with this so it was suggested that Cathy tried "expecting more", in other words, assuming that Kenneth had more to say, and therefore leaving space to enable him to produce more talk and participate more fully. Cathy acknowledged *"I think I probably do rush you and I don't give you enough time to say things"*, and that this was partly to do with her busy lifestyle. She also commented that she assumed most of the other participants in the study are *"probably retired and have got all day to do it and I don't have that"*. Cathy's concerns were all acknowledged and explored. The therapy goal was modified so that Cathy was asked to try to avoid asking series of questions, by limiting herself to no more than two questions in a row.

6.3.5. Post-therapy analysis of Cathy's use of questions

Kenneth and Cathy video-recorded 86 minutes of conversation immediately post-therapy, of which 22 minutes were transcribed for detailed analysis. Based on the therapy it was expected that there would be evidence of Cathy asking fewer questions generally and avoiding series of questions, and instead making comments or leaving silent pauses for Kenneth to begin a turn. Cathy's use of questions in the pre- and post-therapy data was compared. In the 15 and a half minutes of transcribed baseline data in which only Cathy and Kenneth participated, Cathy asked Kenneth a total of 71 questions, comprising 34 yes/no questions, 19 test questions, 10 closed questions, and 8 tag questions (see Table 6.4). There were no open questions in the pre-therapy data. It should be noted that at times Cathy repeated or redid her question, for example, she asked the same test question five times (in various forms) during one conversation, and repeated yes/no questions if Kenneth did not reply.

	Yes/No	Test	Closed	Tag	Open	Total
Pre-therapy	34	19	10	8	0	71
Post-therapy	23	0	13	15	5	56
Maintenance	32	9	5	31	4	82

Table 6.4: Cathy's use of questions

Six and a half minutes of the transcribed pre-therapy data were excluded from the analysis because Kenneth and Cathy's son participated in this conversation and the presence of a third party changed the dynamics so that it was not felt to be representative. In the 22 minutes of post-therapy data that were transcribed, it was evident that Cathy continued to ask questions, particularly in order to initiate topics, and also that she repeated her questions if Kenneth did not respond or responded with a turn such as "I dunno". Overall, there was limited evidence of fewer questions: across the 22 minutes of transcribed post-therapy data Cathy asked 56 questions, of which 23 were yes/no, 13 were closed, 15 were tag and 5 were open questions. Note that pre-therapy there were 71 questions over 15 minutes compared to 56 questions over 22 minutes, indicating some reduction. There were some changes to the proportions of different types of question that Cathy asked post-therapy. Her yes/no questions reduced slightly from 34/71 (48%) pre-therapy, to 23/56 (41%) post-therapy; also she did not ask any test questions in the post-therapy data compared to 19 pre-therapy, and she asked a small number of open questions post-therapy data, which had not been seen in the pre-therapy data. However, it was apparent that she was continuing to rely on questions to a large extent post-therapy and no evidence that she was systematically producing more comments/assessments. Similarly there was no clear evidence of silent pauses after her turns, to allow Kenneth to initiate a turn.

In extract 6.21, there is evidence of Cathy asking, and repeating, questions, in a similar manner to pre-therapy.

Extract 6.21: B_3_2

```
036 C-> Where would you most like to go, (.)
037 -> Money no object
038 (5.5)
```

039 K I don't (w-) I don't know which
 040 I don't know
 041 C-> [Go] on money no object
 042 [((looks away))]
 043 -> you can go anywhere you want to where
 044 -> would you like to go
 045 (6.4)
 046 C-> [(coz)] at the moment with this
 047 [((looks at K))]
 048 -> rain [and mi]serable weather (I'd
 049 K [fyesf]
 050 C quite) like to go to the Caribbean
 051 K () no its [not,]
 052 C [↓No:] don't fancy that
 053 (.)
 054 C Too too ↑hot
 055 K No it doesn't matter
 056 C ↑been
 057 K Been
 058 C °okay°
 059 (2.5)
 060 K-> Waii
 061 C fHawaii£
 062 K () no[:]
 063 C [fo:h] right£ [I never heard] you
 064 K [I don't know]
 065 C You mention that before Hawaii
 066 K-> Antarctica
 067 C Antarcti↑ca right
 068 K Now there is good (them)
 069 C-> You'd like to go there
 070 K fcold£ huh huh huh [fcold] but it is good£
 071 C [cold]

The topic is holiday destinations and Cathy has been asking Kenneth where he would like to go for his 50th birthday, and he has said that he doesn't know. She asks again where he would like to go (line 036-037) and after a 5.5 second gap, he responds that he doesn't know (line 039-040). Cathy immediately follows this by redoing her question (lines 041-043). Hypothetically, at this point she could have left a gap to see if Kenneth would initiate more talk, but he does not have the opportunity because she repeats the question. However, after repeating her question at lines 041-043, Cathy does leave a 6.4 second gap, during which Kenneth appears to be thinking and she is looking away. As she begins to speak again, she glances at Kenneth who gives no sign that he is about to begin a turn, so she makes a comment (line 046-048, 050), possibly because she has realised that Kenneth is having difficulty answering her question and this is a way of moving the talk on. Kenneth responds to her comment with a disagreement (line 051), and Cathy asks a yes/no

question, which appears to be checking his response. She follows this up with a comment ("too too hot") which she produces with rising intonation. Kenneth does another disagreement and Cathy makes another comment with rising intonation ("↑been"). At line 060 Kenneth does name a place he would like to visit and another at line 066, after which Cathy asks Kenneth to confirm he would like to visit these places by asking a yes/no question (line 069). This extract provides evidence that Cathy was continuing to use questions after therapy, and that Kenneth failed to answer her, she tended to repeat (or redo) her question.

In extract 6.22 the couple is looking at the paper and talking about what they may watch on television that evening.

Extract 6.22: B_1_2

```

180 C-> you fancy watching that football
181 K (dunno)
182 C Eh?
183 K No
184 C-> Don't like that one?
185 K (no)
186 [(looking at paper)]
      [(7.1) ]
187 C Titanic
188 K Yeah
189 (.)
190 C [(looking at paper)]
191 K |((drinking) ) |
192 K [(10.9) ]
193 C Nothing
194 K Nothing
195 C-> Nothing on at all (I'll have
196 -> a look what's on that (1.1)
197 -> Hard drive. There's loads of
198 -> Films on there in't there
199 K Yeah yes its good
200 (1.8)
201 K Righ[t ]
202 C-> [Go] on what film have you
203 -> Watched recently that I c-
204 -> That I might like
205 K Er I don't know hah hah
206 Hah ha::h
207 C-> What about the girl with
208 -> The dragon tattoo or
209 -> Something
210 K Oh yeah it's good that one
211 C-> Is that worth watching
212 K E:r
213 C-> Would I like it
214 K Yeah (uh) yes,
```

215 C-> Shall we watch that
 216 K ↑Yeah
 217 (4.6)

It begins with Cathy asking Kenneth whether or not he wants to watch a football game (line 180), and following that up with another question about why he does not seem keen (line 184). After looking at the paper for a few seconds, Cathy does a comment, but adds a tag question (195-198). Cathy then asks Kenneth about films he has seen that she may like (lines 202-204). He replies that he doesn't know, so she does a question about a possible film (lines 207-209) which she could have produced as a comment, e.g. "I'd like to watch the girl with the dragon tattoo" and then left a gap for Kenneth to respond, without the constraint of having to answer a question. As it is, Kenneth includes an assessment in his reply ("yeah it's good that one ": line 210) and Cathy goes on to ask three further questions (lines 211, 213 and 215). This is evidence that post-therapy Cathy is continuing to ask series of questions rather than limiting herself to a maximum of two questions in a row. Kenneth's turns are essentially limited to yes/no responses in this extract, because Cathy is still asking her next question immediately that Kenneth has answered, rather than leaving a gap for him to say more.

In extract 6.23, there has been a lapse in the conversation and Kenneth's turn at line 047 is designed to prompt Cathy to introduce a new topic.

Extract 6.23: B_4_2

047 K .hhh Right (.) carry on where else
 048 C Well go on then [let's go on to a]nother
 049 K [where's el-]
 050 C-> Subject what would you like to work as
 051 K No
 052 (1.2)
 053 C You don't
 054 K No £I won't going huh£
 055 C Not going to work
 056 K Why not .hh huh
 057 C-> Are you happy as you ↑are
 058 K Ye- u::hm no↓:
 059 (2.1)
 060 C-> Are you happy at home
 061 K No
 062 C You want to do ↑something
 063 K Yeah but I don't want to (be)
 064 C You don't know ↑what to do.
 065 (1.6)
 066 C-> There nothing you'd ↑like to do

067 -> (.) Even if it's not well paid
 068 (.)
 069 C-> Bit of a ↑fun job
 070 K Don't [know]
 071 C-> [its be]tter than
 072 -> (.) doing nothing in't it
 073 K Farming I love that
 074 C Get a farm
 075 K Right because it
 076 C (no) need to find somebody who's got
 077 A farm [that needs]
 078 K [you've]
 079 (2.9)
 080 C (have to) be a farm help for now
 081 K Yeah but [I don't know]
 082 C [get your own] farm

In this extract Cathy responds by asking him what work he would like (line 050). She then asks "are you happy as you are" (line 057). His response to this is unclear so Cathy redoes the question at line 060. Her turns at lines 062 and 064 appear to be confirming what she understands that Kenneth means, and she then goes on to ask if there is anything that he'd like to do (lines 066-067, 069). Her next turn begins as a comment, she adds a tag question (line 071-072), before making more comments about how Kenneth could get some work in farming. Again, this extract is evidence that Cathy is using series of questions post-therapy, and that she seems to find it difficult to make a comment without adding a tag question.

Kenneth and Cathy video recorded 91 minutes of conversational data at the maintenance point, of which over 21 were transcribed. In this data set there was evidence that Cathy continued to produce series of questions, including test questions. There was no evidence that she had reduced her use of questions, and at times she would ask a question, even when Kenneth appeared to be partway through a turn himself. Therefore, to achieve sequential relevance, Kenneth's turns continued to be limited both grammatically and semantically.

Post-therapy, the CAT-DP (Swinburn, et al., 2005) was re-administered. Kenneth's t-score post-therapy was 52 (compared to 49 pre-therapy) and Cathy's was 47 (compared to 50 pre-therapy). Both pre- and post-therapy t-scores were within one standard deviation of the mean for people with aphasia (mean = 50, SD = 10).

The couple was also interviewed about their experience of the therapy study. Kenneth was asked if he had noticed any differences in conversations with Cathy as a result of the therapy and after some laughter he said "*er yeah ah is alright*" and when asked if it had been helpful to have Cathy involved in the therapy he said

"yeah". Kenneth indicated frustration with the limitations his aphasia caused him generally and this was a view shared by Cathy. In the post-therapy interview, Cathy reported trying to ask fewer questions and being more aware of her questions: "*I try to ask him questions less definitely ... I'm just not very good no I do I ask questions less but I don't think about it all the time y'know I've not got to ask a question but ... sometimes I think about something that I'm going to ask and I know he'll struggle with it so I try and word it differently yeah definitely*". Cathy reported that she found being directly involved in the therapy was "*better ... coz I know what's going on and I can help more whereas y'know other therapies Kenneth's not been able to tell me what he's done so I can't do it during the evening or whatever y'know to help him improve really*".

6.4. Patrick and Diane

6.4.1. Background

Patrick (aged 56) and his wife, Diane (age 49), joined the study 13 months after Patrick's stroke which had resulted in a mild to moderate Broca-type aphasia, as evidenced by his profile on the BDAE (Goodglass, et al., 2001) (see Figure 6.5). Patrick's word retrieval skills were assessed by picture-naming and his score (52 out of 60) on the BNT (Kaplan, et al., 1983) was the least impaired of the eight participants in this case series, and was within the normal range. However, Patrick displayed some phonological difficulties in his expressive language. Despite good repetition and comprehension skills, his verbal output was slow and effortful. Patrick completed some additional assessments because the standard set for this study was not sufficiently sensitive to capture the kind of expressive difficulties that were evident in Patrick's face-to-face communication. The additional assessments were: the Graded Naming Test (Warrington, 1997) to identify how Patrick performed on a naming test that is more challenging than the BNT (Kaplan, et al., 1983); the fluency test (Gladsjo, Schuman, Evans, Peavy, Miller, & Heaton, 1999) to assess Patrick's ability to generate linguistic items; an ad hoc procedural discourse task in which the participant is required to give instructions to a naïve listener about a certain skill or game (for Patrick this was to explain the rules of darts, a personal interest of his, and was carried out twice at baseline for reliability purposes), to understand how

effectively Patrick could structure his discourse; and an additional retell of the Cinderella narrative, for reliability purposes. Patrick's score (23 out of 30) on the Graded Naming Test placed him at the 75th percentile (Warrington, 1997). In the fluency test, he named 3 items of food, 10 items of clothing and 8 animals, in the semantic category, and 7 words in total beginning with FAS. Age appropriate normative data (Gladsjo, et al., 1999) for fluency tasks place Patrick outside the normal range for both tasks: FAS mean = 38.63, SD = 11.98 and animals category mean = 18.05 , SD = 4.81. Patrick also completed one additional

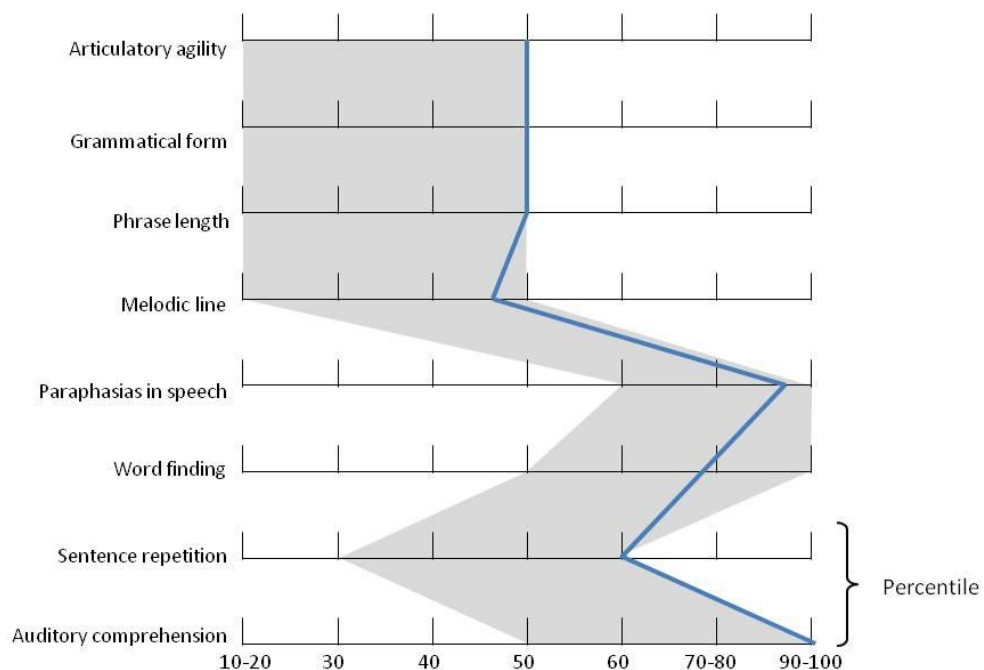


Figure 6.5: Patrick's Baseline BDAE profile

cognitive assessment, the Trail Making Test (Tombaugh, 2004) to capture information about visual scanning and speed of processing. He completed Part A in 49 seconds, and Part B in 1 minute & 32 seconds, both scores being within the normal range (Tombaugh, 2004). Both Patrick and Diane's self-reported perception of Patrick's aphasia using the CAT-DP (Swinburn, et al., 2005) were at the mid-point of the range for people with aphasia. Patrick's t-score was 51 and Diane's was 47 (mean for people with aphasia = 50; SD = 10). This indicates that while Patrick's aphasic difficulties were relatively mild, as evidenced by his assessment results, his

perception of his communication disability was close to the mean of people with aphasia.

When the couple was interviewed, Patrick said *"I find it frustrating uhm life and soul of the party er I don't think I'm ever going to get back to how I used to be"* which he went on to explain was because his aphasia meant he was too slow to make jokes / humorous remarks. He reported *"sometimes I get out what I want to get out but er its hard"* and *"hell with it"*, meaning that at times it he found it too difficult and abandoned trying to express what he wanted to say. Diane reported a general lack of conversation *"... having a conversation doesn't really happen as such any more"* which she felt was because it was difficult for Patrick, who preferred to *"just read his paper or go on his laptop"*. She reported feeling frustrated at times with how long it took Patrick to express himself, saying that sometimes she would be thinking: *"hurry up"* and that, if she felt able to: *"well you'd jump in wouldn't you more"*. There was discussion around the fact that Patrick's delayed turn production tended to make it difficult for him to express his point and be humorous because he missed the opportunity to make jokes, and therefore was less engaging for Diane (or other interactants). Diane commented particularly on what she perceived to be his determination to retrieve particular words when she felt that another would suffice: *"... I've noticed he tries to use big words instead of using the simple little word that would do"*. However, she acknowledged that, given sufficient time, Patrick was usually able to retrieve the word he wanted: *"he doesn't seem to use a different word for the word he's wanting, he won't do that he wants to get that word out and he gets there 9 times of out 10"*. An example of Patrick apparently searching for a specific word occurs in the first transcribed extract. The couple is talking about a population of swans at a location where they walk regularly and Patrick comments *"them cygnets have been (.) uhm decimated"*. The micropause and "uhm" appear to be evidence that Patrick is searching for a particular word, and this seems to be borne out when he produces "decimated". This preference to use a relatively infrequent word supports Diane's impression that Patrick "tries to use big words" when, potentially, a more frequently occurring word could be used without noticeable loss of meaning, and with less delay to the progressivity of the turn.

6.4.2. Analysis of pre-therapy conversation data

22 minutes of the 98 minutes of video-recorded baseline conversations for this couple were transcribed and analysed according to CA protocols (see Chapter 2, Section 2.4.2). A number of behaviours were identified that appeared to reflect the couple's adaptations to managing Patrick's aphasic difficulties during conversation. One noticeable behaviour was that Patrick appeared to prefer Diane *not* to collaborate while he was attempting to complete a turn, preferring instead to be given time to complete his turn himself (or to self-repair when appropriate). He achieved this in part by avoiding any eye contact or other interactional gesture with Diane while he was engaged in producing a turn, making it difficult for her to participate. This resulted in Diane tending to have a passive role, waiting for Patrick to express himself, and that progressivity tended to be delayed. Although Patrick was aware of this, he expressed more concern about his slowness in larger group conversations, and particularly that this prevented him from making jokes. This behaviour of Patrick's appeared to be a form of resistance to using adaptations, with him preferring to produce his turns as he would have done prior to the onset of his aphasia, despite the delay that this caused. The therapy for Patrick and Diane was based on these CA findings, and comments made by the couple during the interview. Three areas to target in therapy were discussed and it was agreed that we would work on:

- 1) encouraging Patrick to be more flexible in his lexical choices to reduce the delayed progressivity of his turns,
- 2) improving Patrick's use of verbs to speed up his phrase construction, and
- 3) encouraging Patrick to invite collaboration from Diane when his turns were delayed due to his language difficulties.

6.4.3. Pre-therapy evidence of Patrick not inviting Diane's collaboration

Patrick's turns tended to include lengthy intra-turn pauses. These may have occurred because Patrick was engaged in a word search or was attempting to construct a grammatical turn. During these intra-turn pauses Patrick typically did not make eye contact with Diane or engage in any other gestural behaviour that could have been treated as inviting her to collaborate in the repair activity (Goodwin & Goodwin, 1986) leaving her to wait passively until he reached a TRP. In extract 6.24 Patrick is talking about the mother of a friend who died recently.

Extract 6.24: A_1_2

056 (1.2)
057 P-> Uhm (2.4) his dad, (1.9)
058 D Just did his own thing
059 P Yes (1.4) did his own thing
060 (3.8)
061 m↑m
D
062 (4.7)
063 P Jeremy will miss him (1.1) [(erp)]
064 D [miss her]
065 P Her
066 D Yes
067 (3.6)
068 P uhm (7.5) saying: (.) uhm: (4.7) will kill me
069 (2.4) when he (.) brought a cold (.) home
070 (1.1)
071 D his d↑ad said=
072 P =no mum said (3.5) uhm (2.2) °mum said°
073 D it'd kill her
074 P Yes
075 D when he bought a cold home
076 P Yeah

His turn contains a number of intra-turn pauses. First, in line 057, he produces a pause of 1.9 seconds during which he makes no eye contact or any other gesture to invite Diane to collaborate. On this occasion, she does guess his meaning and verbalises this after the 1.9 second pause and he accepts her guess (line 059). He reports something that the friend's mother used to say (line 068-070), beginning with an "uhm" (line 168) that claims the floor, followed by a 7.5 second pause, after which he says "saying" then a micropause, another "uhm", a pause of 4.7 seconds then "will kill me", another pause of 2.4 sec, then "when he (.) brought a cold (.) home.". Throughout this turn, he makes no eye contact or any other interactional gesture with Diane who is left waiting for him to complete the turn. In this example, Diane leaves a 1.1 second gap after Patrick reaches a TRP then does an other-initiation of repair (line 071), in the form of a guess (which turns out to be incorrect) as to the meaning of Patrick's prior talk.

In extract 6.25, there is another example of a turn that contains a number of lengthy intra-turn pauses.

Extract 6.25: A_3_2

036 (1.2)
037 D three' ll do=

038 P =it will be fine
 039 (3.2)
 040 P-> uhm (4.0) mix (1.1) a (3.4) uhm (4.3) mix the
 041 -> compost with (2.0) uhm (2.7) my compost (2.3) with
 042 -> (.) your uhm (3.8) mix the compost with (.) some
 043 -> Bought
 044 D yes (.) some (.) packed compost
 045 P Yes
 046 D °yes I know the one (1.9) and some soil as well°
 047 P [n- no]
 048 [((shakes head))]
 049 (1.1)

The couple is discussing transplanting some tomato seedlings and Patrick is explaining the mix of compost that Diane should use. His turn beginning at line 040 contains nine intra-turn pauses that last between 1.1 and 4.3 seconds each. The turn also contains some fillers, including three “uhms”, and restarts/repetition. The turn seems to be effortful and the progressivity is delayed by the intra-turn pauses and fillers. Patrick does not make eye contact with Diane during this turn, or do any other interactive behaviours that could be interpreted as inviting her to collaborate, although from the nature of what Patrick is saying, it seems likely that she could guess his potential meaning. In this example, again, she waits passively for him to complete the turn.

Extract 6.26 contains a further example of multiple intra-turn pauses which delay the progressivity of Patrick's turn.

Extract 6.26: A_2_2

015 D so who's gonna (.) is it still the league
 016 (1.4)
 017 P yes (1.3) the league
 018 D whose: at the top
 019 P United
 020 D so will they win it do you think
 021 -> P m: (1.9) °don't know° (4.5) uhm (1.4) five points
 022 -> arsenal (.) uhm (0.7) game in hand (2.8) uhm
 023 -> arsenal (1.1) have (6.8) arsenal have points (1.4)
 024 -> in hand no (1.9) game in hand (3.9) arsenal have
 025 -> (.) five points (1.5) a game in hand
 026 D right so (1.3) they can easily pick five points up
 027 (1.3)
 028 P °yes°

In this extract, Diane is asking about the football league and Patrick begins in line 021 with a turn that is similar to the previous two extracts. There are 11 intra-turn pauses during this turn, lasting between 1.3 and 6.8 seconds, as well as two micropauses, and some fillers (lines 021 and 022). Throughout this turn, Patrick avoids eye contact or other interaction with Diane who does not attempt to collaborate. As in the previous two extracts, Diane waits until Patrick's turn is complete before responding, although in this example, arguably she may be waiting because she is not able to guess what Patrick is trying to say.

6.4.4. Therapy targeting Patrick's lack of interactive behaviours

For this couple, it was felt that it could be possible for Patrick to modify his behaviour to increase the amount of interaction he engaged in with Diane, and thus potentially, to invite her to collaborate with his turn production to expedite the progressivity. When this was raised with the couple, it was acknowledged that although Patrick did prefer to complete his turns himself, this tended to slow progressivity and reduce Diane's sense of engagement, which may not have been optimal for her as the partner. Diane commented that while at times she was content to wait while Patrick completed his turns, at others, she felt impatient. The target for therapy was therefore agreed as:

- increasing Patrick's interactional behaviours during delays in his turn production to invite Diane to collaborate in completing the turn

The first stage of this therapy was to discuss how Patrick's aphasia meant that it was likely that he needed to apply all his cognitive resources to producing turns in conversation and therefore attending to any form of interaction with Diane could represent an extra cognitive demand, and so have the potential to add to his difficulties. The therapist suggested potential interactive behaviours for Patrick to try in order to engage Diane more while he was completing his turn, e.g. eye contact, fillers, and gestures. The couple viewed excerpts of their videos with the therapist then discussed alternative behaviours to try. Patrick was encouraged to invite Diane to collaborate at times through eye contact with her, or verbally inviting her to help so that she felt confident to begin to collaborate. The clinician modelled the suggested behaviours in conversation with Patrick, before Patrick practised using them himself first with the clinician, then with Diane. The couple also practised these behaviours in ten minute conversations between therapy sessions.

6.4.5. Post-therapy analysis of Patrick's interactive behaviours

The couple video-recorded 71 minutes of conversation post-therapy, of which almost 22 minutes were transcribed and analysed in detail. Based on the therapy described above, it was expected that there would be evidence of Patrick using interactive behaviours, such as eye contact, during his turns in order to invite Diane to collaborate. CA of the post-therapy transcripts revealed that overwhelmingly Patrick continued to avoid doing any interactive behaviour that Diane was likely to interpret as inviting her help. There were ten occasions in the post-therapy transcripts that constituted environments of possible occurrence, i.e. turns during which Patrick's talk was delayed because he was engaged in a word search or formulating the remainder of his utterance. On two occasions out of those ten Patrick made eye contact with Diane. On the first (extract 5.27) his eye contact was accompanied with a verbal request for help, and on the second he made eye contact while using continuing intonation to invite Diane to complete his turn. It was noticeable that on both these occasions the delay in Patrick's turn production was due to him being unable to retrieve a place name. For this reason, these two instances did not have a clear sense of being due to Patrick's linguistic difficulties, but instead sounded like the kind of request for help with repair that is found in the conversations of people with no communication disorder when they are unable to remember a name.

	Patrick makes no eye contact/other interactive behaviour during a delay in turn production while he searches for a word/formulates his utterance	Patrick does interactive behaviour during a delay in his turn production
Pre-therapy	6	0
Post-therapy	10	2
Maintenance	4	0

Table 6.5: Patrick's interactive behaviours to invite Diane to collaborate

Extract 6.27: B_2_2

047 P yes (.) yes Qashqui (.) Nissan Qashqui
 048 (.)
 049 P the same as Len's
 050 D Yeah
 051 P my brother's

052 (4.0)
 053 P u::hm (2.3) got to try it (1.9) uhm
 054 out i::n: u::hm July we had a: (.) trip
 055 -> down uhm ulp- up in uhm [(wheresa) was it]
 056 [((looks at D))]
 057 D-> when we went with your Len
 058 P-> Yes
 059 D-> Northamptonshire
 060 P Yes
 061 D (hard)ingstone
 062 P yes (.) [hardstone] (.) hardingstone I
 063 [((looks away))]
 064 enjoyed that

In extract 6.27, Patrick looks at Diane and at the same time makes a verbal request for her to help “(wheresa was it”: line 055). Diane responds with an other-initiation of repair to clarify what Patrick is referring to (line 057) before giving the name of the place, i.e. “Northamptonshire” (line 059), that Patrick was unable to produce. Patrick accepts this and Diane then produces “Hardingstone”, the name of the place in Northamptonshire. In the pre-therapy data there were no examples of Patrick making a verbal request for help from Diane, so this example displays evidence that Patrick has modified his behaviour in terms of using eye contact to permit Diane to collaborate as practised in therapy, and he is asking for help explicitly when he is having difficulty completing his turn.

Extract 6.28 is similar to extract 6.27 as Patrick is again searching for a place name when he makes eye contact with Diane, apparently inviting her to collaborate in the word search.

Extract 6.28: B_4_2

001 P uhm (3.9) uhm (2.4) Carl has a caravan
 002 and, (1.4) uhm (2.7) Carl has a
 003 -> caravan uhm (1.3) at, ((looks at D))
 004 D [(2.7)]
 005 D-> [((smiles))] £come on (.) remember£ .hhhuh
 006 P yes uhm
 007 D-> £It's not (Cornholme) that's in the
 008 Film£ hah hah [hah hah]
 009 P [yes bu]t
 010 D £That's where it [was filmed] hah hah£
 011 P-> [it]
 012 -> Was near there
 013 D .hhhah
 014 (.)
 015 P-> Uhm (.) anyway uhm (1.6) uhm Carl (1.5) and his

016 brothers (.) Len my brother, (.) and Paul
 017 and Jim (.) a- uh:hm friends of theirs
 018 went up to play golf (1.3) and,
 019 (2.0) uhm stactic ca- (.) caravan uhm
 020 (2.7) uhm and Paul
 021 got lost on the way back from
 022 the toilets
 023 D hah hah hah hah hah hah hah

In this extract, Diane does not give the name, but instead smiles and appears to encourage Patrick to retrieve the name himself when she says "(£come on (.) remember£ .hhhuh" (line 005). Patrick is unable to progress his turn and Diane comes in at line 007 saying "£it's not (Cornholme) that's in the film£" followed by laughter, apparently because she cannot produce the name either. The couple abandon this when Patrick says "£it was near there" (line 011-012) and then "£uhm (.) anyway ..." (line 015).

Extracts 6.27 and 6.28 are the only examples of this new behaviour within the transcribed sections of the post-therapy data.

At the maintenance stage (i.e. three months post-therapy), Patrick and Diane video-recorded almost 83 minutes of conversation, of which almost 23 were transcribed. Across the maintenance data set, the pattern was similar to that seen post-therapy. There was no evidence of Patrick using eye contact or any other gestural behaviour to invite Diane to collaborate when his turns were delayed due to word searches or difficulty formulating the utterance.

6.4.6. Analysis of Patrick's pre-therapy turn design

The two other areas of Patrick's talk that were addressed during therapy were based on analysis of his turn design. The first was his apparent lack of flexibility in terms of word selection/retrieval which led to delays in progressivity while he searched for a specific target: what Diane had described as his determination to "*use big words instead of using the simple little word that would do*". When this was discussed, Patrick explained that once he had begun to think of a word, he was not able to shift to a different word and therefore was unable to substitute the target with a "simple word" that "would do". Examples from the data where it appeared that Patrick was delaying the progressivity of his turn in order to retrieve a specific word are hypothetical as it is not possible to know whether or not Patrick was in fact

persevering in a search for a specific target or whether, in fact, the word he used was a synonym for the word he was seeking. However, the following extracts seem likely to represent this behaviour. In extract 6.29, Patrick's use of the word 'decimated' at line 137 is noticeable for its low frequency.

Extract 6.29: A_1_2

```
129 D      them ducklings might be swans now
130 P      ha ha ha
131       (3.8)
132 P      yes-
133 D      or them cygnets I should say
134  ->    (4.1)
135 P->    them cygnets=
136 D      =might be [swans]
137 P->    [have ] been (.) uhm decimated
```

It is possible that he was beginning this turn at line 132, when his "yes-" was cut off and Diane began a turn herself. Patrick leaves a 4.1 second gap after Diane's turn before beginning to speak, but his turn is delayed when Diane comes into his turn space, adding to her own turn from line 133. Patrick completes his turn at line 137, when he says "have been (.) uhm decimated", with micropause and "uhm" suggesting that he was searching for the relatively infrequent target "decimated".

In extract 6.30, there is another example where Patrick maybe delaying the progressivity of his turn to retrieve a specific word.

Extract 6.30: A_3_2

```
058 D      I'll have to sort my compost out then wo:n't I?
059       (1.4)
060 P      Yep
061       (4.2)
062 P->    makes for (4.7) makes (4.8) good growing material
063 D      °ok° (0.7) I'll do that
```

In this example, his turn at line 062 contains two lengthy intra-turn pauses, (4.7 and 4.8 seconds), before he produces the phrase "good growing material". In this example, arguably, Patrick could have designed his turn differently and, potentially, have delayed its progressivity less, e.g. by substituting a simpler term such as "good stuff" for "good growing material".

In extract 6.31, Patrick's turn beginning at line 045 displays a particularly lengthy intra-turn pause of 8.5 seconds.

Extract 6.31: A_1_2

037 D does his dad still do the writing for the [wa-]
038 P [yes]
039 D er for the (>weekly<) news=
040 P =yes
041 D suppose that keeps him going dunnit.
042 (4.2)
043 D °very good°
044 (3.2)
045 P uhm (8.5) he's had to put up with a lot (.) his
046 (2.1) uhm (1.8) his dad was very selfish
047 D oh was he
048 P Yes
049 (0.5)

It appears most likely here that rather than searching for a specific word, Patrick was constructing a TCU "he's had to put up with a lot", which he was able to produce fluently following the 8.5 second silence. There are two further intra-turn pauses in Patrick's turn, one of 2.1 seconds and one of 1.8 seconds, which delay the progressivity of the turn. These two silences also appear more likely to be due to Patrick attempting to construct a grammatically proficient turn, rather than the result of a word search. Patrick makes no eye contact or other gesture with Diane throughout this turn by way of interacting with her as his listener.

6.4.7. Therapy targeting Patrick's turn design

Patrick's lack of flexibility in terms of word choice was addressed using an approach similar to the semantic feature analysis therapy described by Coelho, McHugh, and Boyle (2000). Patrick was required to define target words (presented in written form on a blank postcard), generate up to ten synonyms, and identify the most appropriate synonym to replace the target, with an explanation for his choice. This activity was carried out in therapy sessions as a joint activity in which Patrick was given time initially to generate any synonyms that he could before Diane and the clinician joined in, giving synonyms themselves or with the clinician cueing Patrick, e.g. with the first letter of a synonym. After generating as many synonyms as possible, Patrick used a dictionary to supplement the list. The gains and losses in meaning of each synonym were then discussed and finally Patrick was asked to

select the word (or phrase) that he felt offered the best substitute for the target, giving reasons for his choice. One example was the stimulus “sad”. Patrick explained the meaning as ‘unhappy’, which was also his first synonym. He added ‘mournful’, was unable to generate more synonyms. Suggestions by Diane and the clinician included ‘blue’, ‘tearful’, ‘morose’, ‘miserable’, ‘gloomy’ and ‘glum’. The therapist then prompted Patrick for “a phrase that implies sad”, Patrick was unable to respond so the therapist suggested ‘a bit depressed’. Diane then offered ‘stressed’ which Patrick rejected, saying “it's not the same ... it's what you do at work makes you stressed”. Once the list was considered complete, the benefits and disadvantages of each word were discussed. Patrick chose ‘unhappy’ (his first synonym) as the best substitute for 'sad'. Patrick found this activity very difficult throughout the period of therapy and reported disliking doing the practise words that were given each week and needing to use a dictionary to find synonyms.

To address Patrick's difficulty using verbs with their appropriate argument structure, a form of mapping therapy based on Webster, Morris, & Franklin (2005) was used. The aim was to improve Patrick's ability to produce utterances which specified the argument structure of the verbs. The therapy involved Patrick first naming a verb pictured in a black and white illustration, and then producing a sentence including the verb, the agent, and where appropriate, the patient. Patrick was told he could add subclausal elements around the verb, such as prepositional phrases, if he wished. For example, when Patrick was shown the following black and white illustration of a boy blowing out a candle (Figure 6.6) he identified the verb correctly as “blowing”, then produced the sentence: “He had to blow the candle out”.

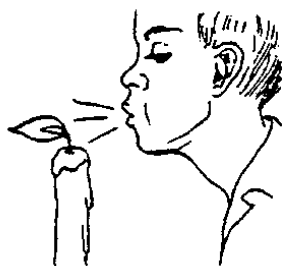


Figure 6.6: Sample black and white stimuli for mapping therapy

Home practice was set for both the semantic feature and mapping therapy. Each week Patrick was given approximately three stimuli to define, generate synonyms

and select the best substitute, with reasons. Therapy for mapping involved Patrick being given target verbs (initially pictured then written) to name and then to generate sentences based on verbs.

Over the ten weeks of therapy that this couple completed, the semantic feature analysis task followed the same pattern, but the mapping therapy activities changed from generating sentences from written stimuli to identifying up to three verbs that were necessary to retell a newspaper story then retelling the story to Diane using the selected verbs. Once Patrick was familiar with this task, Diane was encouraged to focus on identifying opportunities during his retell when she *could* participate actively (e.g. if Patrick appeared to be searching for a word or unable complete his utterance to guess). She was also encouraged to ask questions, initially after Patrick had completed the retell, and later, during the retell. The final task that involved verb production was generating procedural discourses. Patrick was required to choose the key verb(s) and then explain selected procedures (e.g. making a cup of tea and changing a tyre) as if to a naïve listener. After watching the clinician modelling possible ways of interacting, e.g. 'interrupting' to ask questions, Diane was asked to interact as naturally as she could while Patrick completed his procedural discourses.

6.4.8. Post-therapy analysis of Patrick's turn design

When the post-therapy video recorded conversational data for this couple was analysed, there was no evidence that Patrick's turn design had changed in terms either of his use of verbs and appropriate argument structures, or increased flexibility in terms of lexical choice. this is illustrated in extracts 6.32 to 6.34.

Extract 6.32: B_3_2

014 (.)
015 P-> Uhm (.) anyway uhm (1.6) uhm Carl (1.5) and his
016 -> brothers (.) Len my brother, (.) and Paul
017 -> and Jim (.) a- u:hm friends of theirs
018 -> went up to play golf (1.3) and,
019 -> (2.0) uhm stactic ca- (.) caravan uhm
020 -> (2.7) uhm and Paul
021 -> got lost on the way back from
022 -> the toilets
023 D hah hah hah hah hah hah hah
024 P uhm (2.6) uhm he went was lost
025 for £three quarters of an hour£
026 D hah hah hah hah

In extract 6.32, there is a delay to the progressivity of Patrick's turn while he searches for people's names and then the phrase 'static caravan', (line 019) which is arguably not necessary, as 'caravan' would suffice.

Extract 6.33: B_4_2

```

075 P well they had one man less
076 D yeah [so they ] did well didn't they
077 P [since this]
078 P Uhm eleventh minute
079 (1.3)
080 P-> but er (3.9) uhm (2.9) I:: think uhm
081 -> (4.2) I think (.) the win was [deserved ]
082 P [((looks at D))]
083 D oh yeah
084 (.)
085 D oh definitely
086 (3.0)

```

In extract 6.33 there are fillers, restarts and three relatively long intra-turn pauses of 3.9, 2.9 and 4.2 seconds, before Patrick completes his turn with "the win was deserved". Whether the delay was due to Patrick searching for a particular word (e.g. deserved) or due to him attempting to structure his words into a meaningful utterance or some other cause, the progressivity of the turn is delayed.

In extract 6.34 there is another example of a long intra-turn pause of 4.9 seconds that causes a delay in the progressivity of Patrick's turn.

Extract 6.34: B_1_2

```

042 D (one of them) great big chunky bits you'd had
043 brought you
044 P Yes
045 (.)
046 D (oh well)
047 (.)
048 P but er: [(4.9 ) ]
049 [((looking down, nodding))]
050 I was knackered .h hah ((smiles))
051 D ((smiling)) fnot surprisedf
052 P Yes
053 D I'm not surprised (.)

```

In this extract, the silence appears, as in extract 6.33, to be due to Patrick constructing his next TCU. Of significance, is the fact that Patrick is looking down

during this silence rather than making eye contact with Diane, although he is nodding his head which *could* be a method of indicating that he is engaged in preparing the next part of his turn. However, it is not a behaviour that is seen elsewhere, so does not represent a systematic method that Patrick has developed to let Diane know that his turn is ongoing.

Patrick and Diane were interviewed about any changes that they thought had resulted from the therapy. Patrick described the synonym generation task as *“uhm well frustrating I’ll say frustrating”*, but reported that *“I have uhm uhm I have well the verbs I have uhm more verbs yes”*, and *“... I have to get my verbs in uhm uhm I have to get my verbs in to tell a story ... I force myself to do verbs”*. He also said: *“well I’ve more confidence uhm more memory uhm”*, and gave two examples, one of which was that he felt more able to socialise without Diane accompanying him, saying *“yes ... uhm Diane doesn’t go out with me darts and Sunday nights uhm confidence in the uhm social uhm social scene”*. When Diane was asked about any changes in her role following the therapy she reported that *“I think I’m now more aware of when Patrick wants me to help him, y’know, give him the word that he’s looking for”* and that this was because *“well he actually looks at me now and- whereas before he’d be like looking away”*. Diane also commented that she felt participating in the therapy was beneficial, saying *“I think it’s better because I can see what y’know is going on and I can see where I can help like, jumping in as in looking at me and y’know so I think it’s better having your partner there or whoever, you get an understanding of what Patrick is going through ...”*.

When Patrick and Diane completed the CAT-DP post-therapy Patrick’s self-reported t-score increased from 51 to 59, representing a small decrease in his perception of his disability, (i.e. within one SD of the mean). Diane’s t-score of 47 was unchanged re- and post-therapy. However, analysis of the subtest scores revealed that Diane's perception was that Patrick was more aware of his difficulties with written language post-therapy, but less affected in terms of self image and emotional consequences.

CHAPTER 7

DISCUSSION

The final chapter of this thesis will focus on the main findings from the current study. The results of the interaction-focused therapy will be critically discussed in the light of what has been reported previously about CA-motivated interaction-focused therapy for couples with aphasia. Some preliminary hypotheses regarding why some couples displayed change post-therapy, but others did not will be proposed. The clinical implications of the findings will be discussed and the limitations of the study will be described, with suggestions as to future directions for further research.

The context for this study was the work that has been done to date in which CA has been applied to conversational data from people with aphasia and their main conversation partners. This includes adaptations, or differences in the actions and activities that participants do, and the ways they design their turns in response to the aphasic difficulties of one of the partners (e.g. Heeschen & Schegloff, 1999; Wilkinson, et al., 2007). In addition, a number of case studies have reported interaction-focused therapy motivated by CA that have resulted in behavioural changes. One change that has been reported following this form of therapy was a reduction in the instances of CPSs initiated by partners (e.g. Booth & Perkins, 1999; Lock, et al., 2001). Another study reported a reduction in the over use of questions by a partner (Wilkinson, Bryan, Lock, & Sage, 2010). In another study, the methods that a person with aphasia used to initiate a new topic were changed to reduce the likelihood that her partner would have difficulty following the topic shift (Wilkinson, et al., 2011). There are no reports in the literature of interaction-focused therapy studies involving participants with Wernicke's aphasia so this study is the first to contribute evidence regarding this population. Some of the findings of this study contribute additional evidence to this existing literature. Other findings offer new evidence, including one novel therapeutic method that was successfully implemented, the application of a new measure for quantifying change, and a phenomena described in this study as 'benign pedagogics'.

7.1. Methodological findings

Methodologically, this study differed from previous interaction-focused studies in the following important ways. A case series design was used so that comparisons could be made across couples and, potentially, patterns relating to the nature of the participants' impairments and any changes that they made due to therapy could be

identified. One focus of this study was the adaptations in the talk of both partners and people with aphasia, and particularly whether adaptations could be used therapeutically. The study collected an unusually wide range and volume of data compared to previously reported interaction-focused therapy studies, including a set of video-recorded conversational data from three months after the therapy to enable analysis of whether or not changes had been maintained. The semi-structured interview data was analysed to create a rich description of the experience of people living with aphasia, and that of their partners, which has not been described previously. Finally a quantitative measure, based on environments of possible occurrence (Schegloff, 1993) that has not been used previously in interaction-focused aphasia therapy studies was applied and found to be a valid measure for comparing pre- and post-therapy data.

7.1.1. Therapeutic application of adaptations

The study also set out to identify each couples' existing adaptations, and investigate whether these could be used therapeutically. It was hypothesised that couples could be made aware of how their own particular adaptations benefitted their interactions so that they could use them in a more deliberate, or therapeutic, manner. It was also hypothesised that adaptations that were beneficial for one couple could be introduced to another couple to address similar difficulties. The study results did not provide evidence to support this hypothesis. There were no adaptations that were treated as goals to be used in a conscious, deliberate manner by the couples who displayed them pre-therapy, and no adaptations that were displayed pre-therapy by one couple were implemented as therapy goals for other couples. The adaptations that did contribute to therapy goals such as CPSs or resisting engaging in other-repair, were all perceived to be unhelpful, and therefore the target was to replace them with different behaviours rather than extend their use.

7.1.2. Data

Another feature of this study that differentiated it from most interaction-focused therapy studies was the range and volume of data that were collected. At least 80 minutes of video-recorded conversational data were collected from each couple pre-therapy, representing a relatively large baseline sample. The same quantity (i.e. 80 or more minutes) was collected immediately post-therapy, again a relatively large

sample compared to previous studies (e.g. Lock, et al., (2001) transcribed 10 minutes from an unspecified amount of data and Wilkinson, et al., (2011) collected 21 minutes of data at the post-therapy stage). This study was unusual in that a third data set comprising at least 80 minutes of video-recorded conversation was collected three months post-therapy to ascertain whether or not any changes that were evident immediately following therapy were maintained by the couples and integrated into their everyday behaviours. Typically, interaction-focused therapy studies have not collected maintenance data (e.g. Lock, et al., 2001; Wilkinson, et al., 2011). However, evidence that changes are maintained is important in assessing the potential clinical effectiveness of therapy. If changes following therapy do not endure much beyond the end of the therapy programme, it would be unlikely that the required clinical investment could be justified. In this study an important element of the findings was that for the four couples who did display changes post-therapy, these changes were maintained when the final set of data were collected three months after therapy ended.

It should be noted that whilst the volume of video-recorded conversational data collected comprised approximately 80 minutes per collection point, not all of this data were transcribed. The transcribed excerpts, representing approximately one quarter of the data, were analysed in detail, but the remaining data were also reviewed to ensure that any findings in the transcripts were reflected across the entire data set. This was the case with all three sets of data.

The data collected in this study were also unusual in their range. Five different forms of data were collected from each couple: video-recorded conversations, standardised language and cognitive assessments, self-reported disability profiles, and semi-structured interview data. By collecting a wide range of data it was possible to obtain a rich picture of the conversational styles and potential difficulties that each couple experienced. This range of data also proved valuable in terms of recommending therapy goals, which were based primarily on CA, but at times were supported by data from the standardised assessments, self-reported perception of disability or, more commonly comments made by the participants during the interviews.

It is worth noting that this study used a wider range of standardised assessments than is typically the case in interaction-focused therapy studies. The intention was that, by collecting a broad set of data, it would be possible to compare performance

of people with aphasia in a test environment with competence in conversation. There were benefits and disadvantages to the number of standardised assessments that were administered. The administration took several hours, resulting in more visits by the clinician (average four visits lasting one and a half to two hours each) prior to beginning therapy. This allowed for more rapport building, potentially resulting in more candid interviews, as relationships of trust had been established by the time the interview was carried out (on the final pre-therapy visit). Administration of the assessments also provided an opportunity to discuss the nature of the person with aphasia's impairments. However, completing the assessments was a significant burden on the person with aphasia and served to highlight the difficulties that they had, which tended, for some at least, to be relatively masked in conversation. It is also arguable that some assessments that were not used, may have offered more useful insights than some that were. For example, a linguistic assessment targeting comprehension, such as the Test for Reception of Grammar version 2 (Bishop, 2003) which is used to assess comprehension in adults with aphasia may have been useful to formally assess receptive language skills and could have replaced the *Verbs Only Subtest of the Object Action Naming Battery (OANB: Druks & Masterson, 2000)* as the latter tests expressive language skills, which, arguably, were comprehensively assessed by the BDAE (Goodglass et al., 2001), BNT (Kaplan et al., 1983), and Cinderella narrative (Berndt, et al, 2000).

7.1.3. Quantitative measures

Finally, while this study was primarily a qualitative study that used CA to analyse and compare the pre- and post-therapy data, it was the first to apply the concept of environments of possible occurrence (Schegloff, 1993), in an attempt to quantify behavioural changes resulting from interaction-focused therapy. Quantifying behaviours within conversational data has been problematic due to the inherent variability of everyday conversational interactions. One procedure that has been shown to be effective is comparing the proportions of major conversational turns occupied by a particular behaviour in different conversations, for example turns occupied by collaborative repair activities, (Perkins, et al., 1999). Environments of possible occurrence used in this study, also compares proportions rather than absolute numbers. However, environments of possible occurrence has the advantage of comparing the proportion of instances within an interaction that present the

opportunity for a particular behaviour to be used, against the actual number of times the behaviour occurred. Therefore, in terms of pre- and post-therapy comparisons, environments of possible occurrence enable comparison of how many times a target behaviour was used, as a proportion of how many opportunities there were for that behaviour to be used. This enables evaluation of the choices that participants make in terms of whether or not to employ a target behaviour by comparing possibilities of use with actual instances of use. The use of environments of possible occurrence in this study is described in Section 6.3.4 (page 218).

7.1.4. Case series design

Unlike most interaction-focused therapy studies which are single case studies (e.g. Beeke, et al., 2011; Wilkinson, et al., 2011), this study used a case series design. Eight couples were recruited for the study, so that a range of types and severities of aphasia was represented. The case series design enabled the results to be compared across, as well as within couples. It was hypothesised that using a case series design could reveal relationships between linguistic and/or cognitive strengths and deficits, conversational behaviours, and response to therapy. The analysis of the linguistic and cognitive data and their possible relation to patterns of interaction is ongoing and will be continued post-PhD.

7.2. Behavioural findings

The behavioural findings from this case series were the changes reflected in the data of four of the eight couples after the interaction-focused therapy and the lack of changes in the other four participating couples (as reported in the preceding chapters). The couples who showed changes in their video-recorded conversational data had many different characteristics. Brian and Ingrid had been managing fluent aphasia with comprehension difficulties for one year, Betty and Tina had been managing similar, but less severe difficulties for approximately four years, Sheila and Amanda, and Eleanor and Miranda had both managing anomic aphasia for 15 and one year respectively. Brian and Ingrid were the oldest couple who showed changes (at 80 and 81 years respectively), Eleanor and Miranda were next at 70 and 63 years, Betty (60) and Tina (45) were similar to Sheila (69) and Amanda (42) in terms of age difference between members of the couple.

In terms of the nature of the relationships between the couples, Brian and Ingrid, and Eleanor and Miranda were spouses/partners who had been in long term relationships for 50 and 35 years respectively. This contrasted with Sheila and Amanda who were mother and daughter, and Betty and Tina who had been friends for approximately 30 years and lived separately from their partners in this study.

There were cognitive differences between the partners with aphasia, such as Brian's performance on the Ravens CPM (Raven, 1962) below the 25th percentile, Eleanor at the 90th percentile and Betty and Sheila both below the 95th. All four participants displayed some difficulty with the TEA with distractions (Robertson, et al., 1994). Betty and Eleanor both scored below the 1st percentile, Brian's score placed him between 10th and 25th percentile and Sheila scored at the 25th percentile. The couple's t-scores on the CAT-DP (Swinburn, et al., 2005) showed broadly similar perceptions of disability: Brian and Ingrid's t-scores were 53 and 55, Sheila and Amanda's were 57 and 55, and Eleanor and Miranda's were 51 and 50, and all three were within one standard deviation of the mean. Betty and Tina were more diverse with Betty's t-score at 37 compared to Tina's at 46, and Betty being the only participant amongst those who showed change to have a t-score on the CAT-DP (Swinburn, et al., 2005) that was more than one standard deviation below the mean.

The couples who showed no change also varied across these characteristics. Based on picture naming scores from the BNT (Kaplan, et al., 1983) Patrick was the least linguistically impaired with a score of 52 out of 60, compared to Edward (10 out of 60), Kenneth (9 out of 60) and David (5 out of 60). Patrick and Diane had been managing Patrick's Broca's aphasia for approximately one year, while Kenneth and Cathy had been managing Kenneth's more severe Broca's aphasia for approximately four and a half years. Edward and Maureen and, and David and Bonnie had both been managing Wernicke's aphasia for one and a half, and four and a half years respectively. All of these four couples were spouses who lived together. Cathy and Kenneth were the youngest couple (aged 47 and 49) who did not show change, with Patrick and Diane next (56 and 49), and David and Bonnie (61 and 62) and Edward and Maureen (71 and 56). All the partners with aphasia performed comparably on the Ravens CPM (Raven, 1962) with scores at or above the 90th percentile, and on the TEA with distractions (Robertson, et al., 1994) with Edward, Patrick and David scoring between the 10th and 25th percentile and Kenneth at the 25th percentile. The couples' perceptions of disability as measured by the CAT-DP

(Swinburn, et al., 2005) ranged from the least severe (Edward and Maureen (59 and 47 respectively) to the least severe (David and Bonnie 42 and 45) with Kenneth and Cathy (49 and 50 respectively) and Patrick and Diane (51 and 47) in between.

7.2.1. Changes displayed by four couples

The four couples who implemented changes displayed these in both their immediate post-therapy data and in the maintenance data collected three month post-therapy, indicating that they had integrated the new behaviours into their everyday interactions. The behavioural changes that were evidenced included fewer pedagogic behaviours, including those associated with repair (e.g. CPSs), changes to self-initiated repair behaviours in terms of eye gaze, and greater equality in turn taking behaviours. The reduction in pedagogic behaviours manifested as 1) the elimination of pedagogic behaviours (e.g. CPSs and monitoring) from Betty and Tina's interactions, and 2) more collaboration by Ingrid when Brian did self-initiations of repair and fewer coach-like behaviours. Another change associated with repair was Amanda's practice of waiting until Sheila made eye contact before she began to collaborate in Sheila's word searches. The main change in Eleanor and Miranda's data was that Eleanor employed more assertive behaviours to claim a turn at talk by coming into Miranda's turn space. It is interesting that repair behaviours were targeted in different ways with different couples, so that Sheila had more opportunity to pursue self-repairs while Brian was assisted more quickly when he did a self-initiation of repair.

In this study, some of the partners with aphasia were required to change a behaviour (i.e. Betty to resist initiating CPSs, Sheila to avoid eye contact until she wanted help, and Eleanor to be more assertive in claiming a turn). This is unusual in interaction-focused therapy studies which have typically targeted the partner only, even though each person's behaviour impacts that of the other, so that on occasion by changing the behaviour of the partner, there has been evidence of a change in the behaviour of the person with aphasia also (e.g. Wilkinson, Bryan, Lock, & Sage, 2010).

Although it is unusual for maintenance data to be collected in interaction-focused therapy studies this proved valuable because all four couples continued to display the same changes three months post-therapy as had been evident in the video-recorded conversational data collected immediately after therapy. One difference was evident

in Sheila and Amanda's data. Three months after therapy Sheila was tending to use verbal requests for help as well as, or instead of making eye contact with Amanda to indicate when she should begin collaborating in repair activity. The fact that the maintenance data demonstrated that the changes resulting from therapy had been integrated into the couples' everyday conversations provides evidence for the first time that this form of therapy has the potential to deliver long-term clinical benefits, at least for some couples coping with the impact of aphasia on their conversations.

7.2.2. Hypotheses accounting for changes

7.2.2.1. Adaptations

In terms of adaptations, Betty and Tina, and Brian and Ingrid both displayed pedagogic behaviours pre-therapy.

The coach-like behaviours displayed in Brian and Ingrid's data were unlike the pedagogic behaviours described previously and appeared to stem from Ingrid's belief that her role included encouraging Brian to resolve his own difficulties as this would ultimately lead to him relearning his linguistic skills, despite evidence that this method was frustrating for them both. Brian's main adaptation was his reliance on proforms and semantically light lexical items which enabled him to achieve progressivity, but tended to result in a paucity of content that meant Ingrid had difficulty understanding his meaning and often treated his talk as problematic.

Tina and Betty were similar in that they also engaged in pedagogic behaviours, although Tina tended to be more collaborative than Ingrid, and Betty was more resourceful in conveying her meaning than Brian. For example, when Betty did a self-initiation of repair, Tina collaborated, often by guessing the target words, and modelled production for Betty rather than withholding words. Tina displayed a tendency to monitor Betty's talk, with comments such as "that's right" and "what's happening with this today" (extract 4.3, lines 065 and 068, page 81). She also encouraged Betty to self-repair at times, and collaborated in CPSs with encouragement tokens such as "go on" (e.g. extract 4.1, line 127, page 78). However, Betty and Tina also displayed beneficial adaptations, (e.g. Betty's use of spelling aloud or writing (either with a finger in the air or with pen and paper), "X not X" formulations, environmental cues and descriptions, and Tina's practice of chunking her talk, incorporating pauses and repeating key words/phrases.

Eleanor's main adaptations was her use of fillers (e.g. "uhm") and repetition of part or whole words to indicate to Miranda that her turn was incomplete and she was in the process of attempting to complete it, and, it was hypothesised that her passive conversational behaviour was a form of adaptation in response to the difficulties she had in expressing herself efficiently. Miranda displayed collaborative behaviours when Eleanor did a self-initiation of repair, for example by guessing target words when she felt able to do so. Sheila and Amanda also displayed a range of beneficial adaptations. Like Betty, Sheila used techniques to achieve progressivity within her turn, e.g. semantically-related words in an "X not X" formulation, environmental cues, and semantically-light words/phrases, proforms and descriptions. Often this provided sufficient information to enable Amanda to collaborate effectively when Sheila had done a self-initiation of repair. Miranda and Amanda both accepted errorful attempts by their partners, provided that they understood the meaning. There were no instances of these two partners highlighting difficulties, e.g. by doing other-initiations of repair, unless they were unable to understand what Sheila or Eleanor were saying.

In terms of adaptations, all four couples displayed adaptations pre-therapy. Where these were not perceived to be beneficial, i.e. because they were pedagogic (Betty and Tina) or uncollaborative (Brian and Ingrid) the couples successfully dropped them as a result of the interaction-focused therapy. Adaptations that had initially appeared beneficial (e.g. Amanda's tendency to collaborate quickly when Sheila did a self-initiation of repair) also changed following therapy so that Sheila had control over how long she pursued her self-repair attempts unassisted. The same adaptation, although less evident in the data of Eleanor and Miranda was also modified. Finally, Eleanor's apparent adaptation of behaving relatively passively, for example by waiting for Miranda to reach a TRP and the producing a minimal turn was also successfully modified so that after therapy she was a more active partner. None of these adaptations appeared particularly effective at masking linguistic difficulties, and relinquishing these behaviours did not result in more exposure of aphasic difficulties.

7.2.2.2. Attitudes

One factor that may have influenced the ability of couples to change their behaviours was the partner's attitude or belief regarding their role in relation to conversing with

the person with aphasia. Some partners appeared to believe that their role required that instead of behaving as would be expected in everyday conversations between peers, they should behave in a coach-like manner in order to remediate and/or stimulate the language of the person with aphasia. This included Ingrid's tendency to encourage Brian to pursue self-repairs, even when he was showing signs of frustration. It seems unlikely that this behaviour was related to the preference for self-repair that has been reported in the conversations of non-communication disabled speakers (see Section 1.2.3, page 19). Ingrid displayed evidence that she understood the coach-like role she had adopted in the comments she made during the semi-structured interview and while reviewing excerpts of the video data. For example, on one occasion while reviewing a video-recorded extract, she observed: "*I'm trying to MAKE him tell me*". It is possible that for this couple, the therapy acted to permit Ingrid to make different choices resulting in her dropping her coach-like behaviours and instead take a more equal role. Tina's tendency to comment on Betty's talking also seemed to stem from the belief that her role included facilitating improvements in language skills, as it is not a behaviour that would be expected in non-communication disabled speakers. It also appeared to be related to the couple's view that Betty's previous speech and language therapy, which had included working on phonology, had been beneficial. For these two couples, the pedagogic behaviours may have been related to the belief that the person with aphasia would continue to recover their language. The therapy with both couples included education regarding the fact that aphasia is a lifelong condition and that language skills are inconsistent, so that the ability to produce a word on one occasion is no indicator of being able to produce that same word again on a different occasion. By changing these beliefs about the chronic nature of aphasia it is possible that Ingrid and Tina no longer felt responsible for helping Brian and Betty to recover their language skills.

Interestingly during the post-therapy interview Eleanor commented that she had found it helpful to be given permission to 'interrupt' Miranda which may have accounted, at least in part, for her being more proactive at coming into Miranda's turn space to begin a turn post-therapy. She observed that she did not know why she had needed permission for this, but if her relatively passive conversational behaviours pre-therapy were a form of adaptation to managing her expressive difficulties by simply doing fewer full turns, then changing her belief that as a speaker with aphasia she had as much right as any other speaker to produce full turns

at talk, may have been relevant. This would have been an interesting point to explore further, but was not picked up by the post-therapy interview.

Amanda described finding it difficult to wait while Sheila struggled to find a word, and she believed that she should collaborate quickly to minimise the duration of the repair activity. However, she acknowledged that Sheila had the right to pursue word searches without help if she wished. She expressed surprise at how much practice was necessary before waiting felt normal, but by the end of therapy her attitude had changed so that she felt that waiting to collaborate was the right behaviour.

The evidence from these four couples suggests that it is possible to bring about a change in the attitude of people with aphasia and their partners, which results in them feeling motivated to make behavioural changes.

7.2.2.3. Relationships

Of the four couples who did show changes, two were co-habiting partners while Betty and Tina were friends who lived separately, and Sheila and Amanda were mother and daughter, who also lived separately. From the data collected for this study, it is only possible to speculate as to whether or not there is a difference in the role that a friend occupies as the conversation partner of a person with aphasia compared to the role that a partner may fulfil. It is possible, for example, that the pedagogic behaviours that Tina displayed pre-therapy were benign, because they acceptable from a friend, whereas comparable behaviours by a partner may be perceived less positively.

7.2.2.4. Previous experience of SLT

It is possible that Tina's previous experience of her daughter's speech and language therapy had influenced what she perceived to be her role in relation to Betty's language. Tina spoke on several occasions during the study of how she had been told not to speak for her daughter and how she felt that speaking for Betty would encourage Betty to remain relatively dependent on her. This was her rationale for encouraging CPSs and for the monitoring role that she assumed. Similarly, Ingrid spoke of having been told *not* to help Brian by giving him words he could not retrieve (although she was never explicit regarding who had told her this). For Tina

and Ingrid, therapy included reassuring them that these beliefs did not apply to Brian and Betty's aphasic impairments.

7.2.2.5. Goal setting using data from conversations and interviews

For two of the couples who displayed changes post-therapy, the combination of video-recorded conversational data and the interview findings were particularly important. The therapy goals for Sheila and Amanda, and Eleanor and Miranda were identified by exploring each couples' reflections on their conversations during the interviews, as well as the video-recordings. This, hypothetically, could have affected the degree of motivation that each couple felt towards their therapy goals as there is evidence that participation in goal setting contributes to adherence to therapy in rehabilitation (e.g. Hersh, Worrall, Howe, Sherratt, & Davidson, 2012). It is also noticeable that Sheila and Eleanor both had relatively mild aphasia and were able to participate effectively in the goal setting process, which is not always the case in aphasia where linguistic and cognitive impairments may result in reduced participation in goal setting (Hersh, et al., 2012). For all the couples in this study excerpts of their own video data were used to illustrate the clinician's observations regarding conversational behaviours.

The data from the semi-structured interviews was valuable in terms of planning therapy, with comments made by Sheila and Amanda, and Eleanor and Miranda in terms of what they perceived to be problematic proving integral to determining the behavioural targets. It is possible that these couples therefore felt a greater sense of motivation to implement the changes than couples who had been less involved with setting goals. Also, the concerns raised by these two couples were not strongly evidenced in the pre-therapy conversation data, and may not have been identified without the interviews. There was little evidence of Sheila becoming agitated when Amanda guessed before Sheila wanted help, nor of an escalation of emotions if Miranda guessed incorrectly when Eleanor had word finding difficulties. Without the interview data and active involvement of these two couples in setting goals, it is possible that these behaviours would not have been identified as therapy goals.

7.2.2.6. Knowledge, education and reflection

It appeared that for the couples who displayed changes in their conversational behaviours, the therapy process itself was valuable, and in particular, the educational

component. For Brian and Ingrid, and Betty and Tina, one aspect of the therapy that seemed to be important was understanding that the difficulties the person with aphasia experienced were inconsistent and chronic. For both couples, this contributed to the change in their attitudes, and consequent behavioural changes. Eleanor and Miranda treated the therapy sessions as a time to reflect on the difficulties that they experienced as a result of Eleanor's aphasia, including incidents that had occurred during the week since the previous sessions or events that they were anticipating, as well as using the time to practise the target behaviours. Both reported that having a third party present to facilitate some of their discussions was helpful, and had increased their awareness of each other's perspectives. For example, Miranda commented during the post-therapy interview that: "*...I have had some very good insights into both myself and Eleanor ... the question about understanding and Eleanor said something that with me it was very difficult understanding and yet it was quite easy or something to understand her friends*". Without this understanding, Miranda may have been less amenable to Eleanor's therapy behaviour, of coming into her turn space to begin her own turns.

7.2.3. Couples who displayed no changes

As mentioned previously, this study is unusual because it reports the results from the four couples within the case series who did not show any systematic changes after therapy. Typically, and as is the case with most forms of therapy, the results of interaction-focused therapy case studies are published when there is evidence of change in conversational data, but not when there is no evidence of change. By beginning to understand why some couples did not show changes it may be possible to add to the limited knowledge that exists in regard to couples that are good candidates for this form of therapy. To date, this has been explored by considering the attitudes towards conversation of partners of people with aphasia (Turner & Whitworth, 2006b). This study adds to that information by identifying the factors that influence for whom this form of interaction-focused therapy is most likely to be productive, which is highly relevant to the clinical application of interaction-focused therapy, where identifying candidate couples would assist with clinical decision making.

A number of different behaviours were targeted for the four couples who did not show change in this study. For two couples, the partners' topic shifting behaviours

were targeted because the data indicated that topic shifts tended to lead to other-initiation of repair by the partners with comprehension impairments. The same approach to this therapy goal was implemented for both couples, neither of whom displayed any evidence of systematic differences in their topic shifting behaviours post-therapy. Other behaviours were also suggested as targets for both these couples. Maureen rejected each of the suggested behaviours for her and Edward because she believed that the video-recorded data were unrepresentative of their typical conversations. She demonstrated this by maintaining a form of journal over a one week period in relation to each of the behaviours. Bonnie expressed reservations about the other behavioural change that was suggested for her and David, i.e. that she should prompt David to use nonverbal methods when his verbal attempts were failing to convey his meaning because in her view, he already did this spontaneously, and prompting him would serve only to further highlight his linguistic difficulties.

A different behaviour was identified in Kenneth and Cathy's data. For this couple the target was to replace Cathy's reliance on questions to initiate and maintain conversations, by using other behaviours such as commenting and giving opinions. The rationale for this was that her questions limited the sequentially relevant responses that Kenneth could produce, and had the potential to highlight his difficulties by, for example, requiring him to retrieve a specific word. There was no evidence of any reduction in Cathy's use of questions in the post-therapy data, which is of particular interest because it contradicts the evidence from a previous interaction-focused therapy study where the same behaviour was targeted successfully (Wilkinson, Bryan, Lock, & Sage, 2010).

The final couple who displayed no changes in the post-therapy data was Patrick and Diane. For this couple the target was Patrick's lack of interactive behaviours while he was engaged in word searches or formulating his talk, which led to lengthy intra-pauses and delayed progressivity in producing his turns. The goal was for him to use interactive behaviours to permit Diane to collaborate sooner than she had pre-therapy and to reduce the delayed progressivity of Patrick's turns.

7.2.4. Hypotheses accounting for lack of evidence of change

A number of hypotheses to account for the lack of change in the post-therapy data of these four couples are proposed.

7.2.4.1. *Inappropriate therapy goals*

Some of the therapy goals in this study were novel and had not been used therapeutically in the past, or if they had, had not been reported in the literature. Therefore, while they appeared to be valid on the basis that they constituted a problem within the couples' interactions, they may have been inaccessible to therapy. For example, targeting a partner's topic shifting behaviour has not been reported in the interaction-focused literature previously, and it is possible that the goal itself, or the activities that were implemented in this study to achieve that goal were ineffective. However, some of the goals that were not achieved in this study had been successfully implemented in previous studies (e.g. reducing a partner's use of questions Wilkinson, Bryan, Lock, & Sage, 2010), so clearly, this could not fully account for the lack of success with these four couples.

7.2.4.2. *Lack of motivation to change existing adaptations*

It is possible that these four couples did not change because they were not motivated to do so. Three couples had developed adaptations that masked their aphasic difficulties which the therapy goals required them to expose in ways that they found unacceptable. For example, some of Maureen and Edward, and Bonnie and David's adaptations (i.e. chunking their talk, incorporating pauses and repeating key words and/or phrases) masked Edward and David's comprehension problems while others (i.e. allowing Edward and David to continue problematic turns with the possibility that the meaning would become clear), masked their expressive difficulties. Cathy's use of questions, particularly yes/no and closed questions, appeared to be an adaptation to mask Kenneth's linguistic limitations by limiting the sequentially relevant responses that Kenneth could make, and facilitating her collaboration in repairing trouble-sources. Imposing fewer constraints on Kenneth's turns could have led to more problematic turns in which his linguistic difficulties would have been more visible, and necessitated more collaborative repair activities. This would account for Cathy's comment during the therapy phase that rather than benefiting their conversations, she felt that asking fewer questions made conversations more difficult for her: "*... it's not making my conversation easier*" and "*...all its doing is making hard work for me*". However, although the use of questions could represent an adaptation to mask linguistic difficulties, Cathy referred explicitly to Kenneth's aphasia relatively frequently. For example, in one conversation, after

the couple had spent some time repairing a trouble source, she said "much easier when you could talk" (see Appendix 7, page 361 for transcripts). This suggested that masking aphasia was not the purpose so much as keeping the interactions trouble-free. Again, this is an attitudinal point that could be explored through interview.

The behaviour that Patrick displayed, i.e. avoiding any interaction with Diane while he was engaged in a word search or formulating a turn, seemed to be because he preferred to continue attempting to produce his talk as he would have done prior to the onset of aphasia, rather than using adaptations that, potentially, could have enabled him to complete his turns with less delay to progressivity. However, he did, generally, succeed in completing his own repairs so that by waiting, Diane avoided the need to do other-initiations of repair, and potentially allowed Patrick to feel that he was a relatively competent communicator. The lack of change in this behaviour could have been because, although he acknowledged that the progressivity of his turns was delayed, he perceived the cost of the adaptation suggested in therapy (i.e. allowing Diane to collaborate) to be greater than the cost of achieving self-repair. This could represent a similar attitude to the one displayed by Sheila in terms of her not wanting Amanda to collaborate too quickly.

If it is correct that the adaptations in the first three couples' conversational behaviours functioned to mask the linguistic difficulties of the people with aphasia to various extents, this could account for their resistance to changing in line with the interaction-focused therapy which required them to expose their aphasic difficulties more. The potential increase in communicative effectiveness and semantic specificity that the therapy targets could have delivered may not have been perceived as sufficient reason to highlight the partner with aphasia's non-competence, particularly because this was likely to be the reason that the couples had developed these adaptations spontaneously in the first place. Maureen and Bonnie both stated that they preferred to keep aphasia off the conversational surface. For example, during one therapy session when repair was discussed, Maureen said that she felt that pointing out Edward's aphasic difficulties "*would be awful*" and Bonnie said that she was uncomfortable with prompting David to use non-verbal behaviours to self-repair because, in her view, he already did this spontaneously, and she perceived it as unhelpful to make him more aware of the difficulties she had understanding him when he was doing the best he could with the resources he had. However, Bonnie

did provide an example of one occasion when she prompted him to draw during a practice conversation, when she had been unable to understand (see Figure 6.3, page 167). Both Maureen and Bonnie described the considerable agitation that their partners had displayed regarding their linguistic difficulties early post-onset, which could account for their preference to avoid highlighting Edward and David's difficulties.

Of the couples who did display changes, two participants (Amanda and Eleanor) both commented on the amount of practise that was needed. Amanda observed that changing her own repair behaviour was surprisingly difficult while Eleanor commented that she felt she needed more practise at using her eye gaze to stall or mobilise help from Miranda. It seems feasible that Cathy's observation that she and Kenneth did not have much opportunity to practise due to her other responsibilities as a working mother with one school-aged child and two jobs (one full-time and one part-time), may have been related to a lack of motivation to change. She commented that she supposed the other participants in the study were "*probably retired and have got all day to do it and I don't have that*", although she and Kenneth were always asked to practise for two periods of ten minutes only per week. None of the other partners specifically referred to difficulty finding time to practise, although Maureen commented that some of the practising "*seemed to keep going on for a long time, maybe it had to be like that to reinforce it but it felt like a long time, 3 weeks or something*", which could be interpreted as indicating a lack of motivation.

The therapy to address Patrick's lack of interaction with Diane while he was engaged in completing a turn was addressed in the final two therapy sessions, which may have been insufficient to integrate a new behaviour into everyday conversation. There was no evidence of changes to Patrick's conversational behaviours resulting from the semantic feature analysis or mapping therapy. It would be difficult, methodologically, to prove such changes. For example, unless Patrick had made an explicit metalinguistic comment at the time that he was using a synonym rather than the target, it is unlikely there would be evidence of this within the data. This lack of evidence that the impairment-based therapy generalised to conversational data is unsurprising as there is limited evidence in the literature of impairment-based tasks such as this generalising to conversation, and there are methodological challenges in capturing such change even when it does occur (see Carragher, Conroy, Sage & Wilkinson, 2012).

It should also be acknowledged that these four couples did not actively participate in setting the therapy goals. These were derived from the CA only, rather than a combination of CA and comments from the interview. It was not clear why these couples did not engage in the goal setting, particularly the partners who were not hindered by any linguistic limitations. However, it could indicate a lack of motivation, because (with the exception of Patrick and Diane who did) these couples did not appear to have specific concerns about their interactions that they wished to target during the interaction-focused therapy. This contrasts with the four couples who did change, with Sheila and Amanda, and Eleanor and Miranda being particularly active in identifying what they found problematic, and Brian and Ingrid, and Betty and Tina both being amenable to replacing their pedagogic, monitoring and coach-like practices with more collaborative, peer-like behaviours.

7.2.4.3. *Perceived difficulty*

Lack of motivation to change may also have been related to the degree of difficulty that the participants experienced in attempting to implement the suggested behaviours. For example, Cathy displayed difficulty when she attempted to design her turns in non-question form during the therapy sessions and she reported that she found this very difficult to do. The therapy sessions included time focused on education about alternative turn designs which were modelled by the clinician in conversations with Kenneth, as well as on-line feedback by the clinician during practise conversations and reflection on Cathy's turn design immediately following those conversations.

7.2.4.4. *Expectation of impairment-level improvements*

Another potential reason for lack of motivation to change interactional behaviours could be that some of these couples continued to anticipate (or hope for) further improvements at the impairment level. If this were the case, the lack of response to therapy could be associated with a belief that rather than changing their own behaviours within conversations, the therapy should target the linguistic impairments of the partners with aphasia. For example, Cathy talked about practising things with Kenneth "to help him improve". Time post-onset of aphasia did not appear to impact the beliefs about recovery as Kenneth and Cathy had been managing aphasia for approximately four and a half years.

7.2.4.5. *Comprehension difficulties*

No previous studies have reported successful implementation of interaction-focused therapy for couples where the person with aphasia had Wernicke's aphasia, and it is possible that this style of therapy is less useful for couples where the person with aphasia had significant comprehension difficulties, as was the case with Edward and David in this study. In terms of actively participating in the interview process, the goal setting stage and the therapy sessions, Edward and David were the least able to do this of the eight participants with aphasia, and this lack of participation may have influenced their partners' belief in the relevance of the therapy targets.

(Although it should be noted that the other two participants with aphasia who showed no change, Kenneth and Patrick, both presented with relatively intact comprehension.) It is feasible that targeting topic shifting specifically, may not have seemed particularly relevant if Maureen and Bonnie felt that topic shifts were no more likely to cause understanding problems for Edward and David than any other of their turns. If this were the case, then it seems reasonable that they would not feel motivated to change their own behaviours in this regard. In fact, when this goal was discussed with Bonnie, she commented that whilst she recognised that shifting the topic could give rise to difficulties in any conversations, i.e. regardless of aphasia, she did not feel this was a significant problem for her and David.

It should also be noted that Edward and David had difficulty understanding the therapy activities. Edward seemed unable to properly understand the purpose of what was done while David was unable to participate at all in the topic shifting activities during the therapy sessions. For this reason, it is likely that Maureen and Bonnie did not believe that their partners understood the therapy goals and tasks and so may have believed that their partners would have been confused by any changes in their own behaviours.

7.2.4.6. *Cognitive difficulties*

In this study, there were no clear differences in terms of cognitive skills between the four participants with aphasia who showed change and those who showed no change post-therapy. Kenneth and Patrick had cognitive scores on all the assessments that resulted in scores within normal limits, so poor cognitive skills could not account for their failure to change. David's score on the Brixton Spatial

Anticipation Test resulted in a classification of impaired, but so did Sheila and Eleanor, both of whom showed change. The therapy targets for David did not require him to make any changes, whereas Eleanor and Sheila were both targeted. Sheila was the only participant who scored below normal limits on the RCF (Meyers & Meyers, 1995) and displayed changes post-therapy. These results mean that it has not been possible to draw any conclusions regarding cognitive skills and the ability of people with aphasia to benefit from interaction-focused therapy. In previous studies, cognitive deficits have been hypothesised to account for difficulties in conversation (e.g. Frankel, et al., 2007) and in terms of the ability of people with aphasia to learn new skills (e.g. Helm-Estabrooks, 2002). It is possible that the cognitive assessments used in this study were not sensitive to the skills that could be implicated in the potential of people with aphasia to benefit for interaction-focused therapy and more work may therefore be needed to understand which cognitive skills are relevant.

7.3. New findings

In addition to reporting the behavioural changes that were adopted by four couples and those that were not adopted by the other four couples following the interaction-focused therapy in this study, this thesis also reports some new findings that have not previously been described in the CA and aphasia literature. These comprise: 1) the idea that pedagogic behaviours can be treated as benign rather than maladaptive; 2) the two novel therapies of using the eye gaze of the person with aphasia to manage the partners' collaboration in repair activities, and increasing the proportion of full turns by a person with aphasia through coming into their partner's turn space to begin a turn; 3) the methodological finding that environments of possible occurrence is one potential measure by which changes in conversational data can be quantified; and 4) a new finding regarding the aphasic phenomenon of comprehension impairments, and the fact that it is possible to identify and analyse this phenomenon within conversational data through other-initiations of repair by speakers with aphasia. These new findings are outlined below.

In addition, although not a new finding per se, the relevance of collecting and analysing interview data prior to planning therapy is described.

7.3.1. Benign pedagogy

In previously reported interaction-focused therapy studies, pedagogic behaviours by partners have been treated as negative, or 'maladaptive'. Therefore the assumption has been that pedagogic behaviours represent a valid target for therapy. However, the findings from one couple in this study suggest that pedagogic behaviours may not be perceived as problematic by all speakers. Betty and Tina both engaged in CPSs willingly and at times treated them as a source of humour and laughter. However, despite no evidence that CPSs were problematic, once it had been suggested that the couple drop this practice, they seemed willing to do so, and did not engage in practice sequences offline. There was no evidence that Tina's monitoring behaviours were problematic either. Betty did not display agitation when Tina commented or provided feedback on her talk, e.g. "*that's right*", "*what's happening with this today*" and "*you're saying it wrong today*", (extract 4.3, lines 065, 068 and 071, page 81). She encouraged Betty to engage in CPSs, for example saying "go on" (extract 4.1, line 127, page 78) and again this did not appear to cause agitation on Betty's part. The fact that Betty also terminated these sequences when she wished to may be significant and is unlike the way that CPSs have been described in other studies (e.g. Booth & Perkins, 1999; Lock, et al., 2001), where they appear to be imposed on the people with aphasia by their partners.

7.3.2. Targeting use of eye gaze to manage partners' collaboration

Therapeutically, this study was the first to use eye gaze to enable the partner with aphasia to indicate when they wished to self-repair (or attempt to do so) and when they wished their partner to collaborate in the repair activity. This novel therapy behaviour showed mixed results with clear evidence that it was adopted by Sheila and Amanda, but equivocal evidence for Eleanor and Miranda. This finding is of interest because the behaviour builds on the use of eye gaze during word searches in conversations between speakers with no communication disorder (Goodwin & Goodwin, 1986) and is a clear, but potentially subtle way for the person with aphasia to signal to their partner non-verbally when help is required with a word finding difficulty.

7.3.3. Targeting claiming a full turn by coming into the partner's turn space

This study implemented a second therapeutic target that has not been reported previously. This was the use of behaviours by the partner with aphasia to enable them to be more assertive at claiming a turn. This was relevant for Eleanor and Miranda in this study because Eleanor found it difficult to retain her train of thought, attend to lengthy turns at talk by Miranda, and plan her own turns. This resulted in her tending to produce minimal turns, potentially as a form of adaptation that allowed her to participate, but without delaying the progressivity of the conversation which she felt that her expressive difficulties caused her to do. This behaviour was of interest for two reasons. In the first place, it was not a behaviour that had been addressed in previously reported interaction-focused therapy studies, and in the second, it was a change in the behaviour of the person with aphasia, whereas most changes have been in the partners' behaviours. This behavioural change, which to be successful required Miranda to recognise and respond to Eleanor's turn claiming behaviours, was implemented by Eleanor in the post-therapy data.

7.3.4. Environments of possible occurrence to compare pre- and post-therapy data

This study applied the concept of environments of possible occurrence (Schegloff, 1993) as a method of quantifying the behavioural changes that were evident in some of the conversational data of the couples at the post-therapy stage. It was not a measure that could be used for all the behavioural changes because the notion of environments of possible occurrence was not meaningful in respect of all the behaviours that were targeted. It was used in this study in relation to a behaviour or situation where one participant had a choice of responding by using the behaviour practised in therapy, or using some other behaviour (e.g. the behaviour that had been used pre-therapy). In this study, an example of an environment of possible occurrence arose each time Sheila displayed a word finding problem. Her word finding problem created the environment for the possible occurrence of collaboration in a repair activity by Amanda, and the behaviour of interest was whether or not Amanda began to collaborate with the word search *before or after* Sheila made eye contact with her. By quantifying what happened in this environment of possible occurrence after therapy, it was possible to quantify Amanda's use of the new behaviour as a proportion of the opportunities for its use. In this study, Amanda used

the practised behaviour in all 46 environments of possible occurrence in the post-therapy data, i.e. on every occasion post-therapy where this was one of the sequentially relevant options available to her.

Not all of the behaviours that were targeted in this study were amenable to quantification using environments of possible occurrence. For example, it was not possible to define which of Kenneth's turns represented an environment of possible occurrence in which Cathy had the choice of designing her turn either in a question form or in some other form. However, this study indicates that the concept of environments of possible occurrence does represent a useful quantitative measure for *some* conversational behaviours and should therefore be considered as a measure in future interaction-focused therapy studies.

7.3.5. Repair as evidence of comprehension impairment

In this study the video-recorded data from the participants with comprehension impairments were analysed and found to provide evidence that it is possible to assess comprehension impairments using conversational data. This is not the typical method of assessment, which has traditionally been conducted in clinical or other decontextualised settings, usually at the single word, sentence and paragraph level (Marshall, Pring, & Chiat, 2001). To investigate comprehension difficulties in the data for this study, the sequential structure of consecutive turns was examined, with particular attention given to whether or not repair occurred. This is relevant because when a listener responds to what the previous speaker has said, the response displays what the listener understood the previous turn to mean. A response that is sequentially relevant displays that the listener understood what was said in the way the speaker intended. On the other hand, a response that is not sequentially relevant could indicate that the listener did not understand the previous turn as it was intended (Schegloff, 1992). Turns that are not sequentially relevant may take the form of other-initiations of repair where the listener indicates that he has not understood and asks the speaker to repair the difficulty (see Section 1.2.3, page 19), although such other-initiations of repair may occur for a range of reasons, e.g. failing to hear due to background noise. Alternatively, a turn that is not fitting with the previous turn and therefore not sequentially relevant, may display that the listener has taken that previous turn to have a meaning that this is different to the one intended by the speaker. When this occurs, the speaker of the original (i.e. the wrongly understood)

turn needs to recognise the problem and self-repair. The need for repair arises in all conversation, but may be more prevalent when one party has aphasia. People with comprehension deficits may initiate repair due to their understanding problems, and this was noticeable in the data from Edward, David and Betty in particular. So CA provides another method by which comprehension impairments can be assessed, and has the potential advantage that the data is produced in a familiar context, during an interaction with a familiar partner, where, potentially, there is less likelihood of confusion than may occur when the abstract tasks found in standardised assessments are used.

7.4. Interview data

As has been reported in Chapter 4, analysis of the interview data of this study resulted in the identification of five themes. For the partners group, the themes were emotions and attitudes, role changes and communication. For the people with aphasia group, the themes were communication, and attitudes and emotions. There was commonality in terms of the experiences of the participants within each group, although differences did exist. For example, attitudes and emotions were raised by all participants in both groups, but the range of attitudes and emotions differed between groups, with the partners group reporting attitudes and emotions such as guilt, anxiety/protectiveness and anger, and the people with aphasia group reporting frustration and agitation. As has been acknowledged in Chapter 4, consideration was given as to whether or not it was appropriate to analyse the data from the people with aphasia group into two themes, because of the centrality of communication to this group. However, because comments were made regarding communication by this group that were unrelated to emotions and/or attitudes, it was decided that identifying two separate themes was justified, albeit that the theme of attitudes and emotions was linked to communication.

The findings from this study provide evidence in support of previous studies where people with aphasia and/or family members have been interviewed, e.g. changes to roles and responsibilities, the need to reduce working hours or stop working due to carer responsibilities, balancing safety concerns with over-protective behaviours, reduced social contacts, and managing communication problems (Brown, et al., 2011; Denman, 1998; McGurk & Kneebone, 2013; Nätterlund, 2010).

One finding from this study that, as far as the author is aware, has not been reported previously is the emotional experiences of people with aphasia when they feel that they are not given sufficient time to retrieve a target word, or when partners guess incorrectly, or the feeling of being patronised when a partner's behaviour displays that they have not understood the person with aphasia, despite claiming to have done so.

The fact that this study collected, analysed and reported both interview data and video-recorded data enabled comparisons across the two data types. As described, there is potential for differences between these two types of data because they examine different things and participants typically are not sufficiently aware of the conversational behaviours they display in video-recordings to be able to discuss them during interviews (Heritage (1984b)). For example, the two approaches enable the analyst to observe evidence of attitudes and emotions that are displayed in the video-recordings and to collect reports about attitudes and emotions from the interviews, which may or may not result in congruent findings. Comparison of the two data types in this study showed similarities and differences. For example, there were similarities across the data in terms of Eleanor and Miranda's video-recorded conversations which displayed evidence that Miranda tended to produce lengthy turns at talk, and Eleanor's comment that at times she felt Miranda talked a lot and that this made it difficult for her to respond. However, the interview data included partners describing feeling impatient and frustrated at times but this was not evident in the video-recordings. For example, there was no evidence of Diane's frustration on the video-recording when Patrick engaged in a long search for a precise word, when Diane felt he could have progressed his turn by using a different word. Similarly, there was evidence in Cathy and Kenneth's video-recorded data of over-use of questions by Cathy but neither she nor Kenneth commented on this during the interviews.

The fact that interviews and video-recorded data produce different findings supports the use of more than one type of data, so that interaction-focused therapy can be customised to take account of how behaviours that are displayed in video-recorded data may be experienced by different individuals.

In this study, the therapy that was designed for two of the eight couples was resulted from comments made by participants during the interview process. Although the primary methodology of this study was CA, the collection and analysis

of the interview data was directly relevant to the therapy that was implemented for these couples. This suggests that at least some couples have the ability to reflect upon their conversations and identify difficulties that they perceive that may not be observable by an analyst or clinician. For this reason, it would appear that interviewing people with aphasia and their partners is a crucial component of assessment and that interviewing skills, beyond a basic history taking, may be a competence that SLTs need to feel confident to undertake. For interaction-focused therapy, which may be most appropriate for people who are beyond the acute stages of recovery, it is the couples themselves who know what their day-to-day conversation difficulties comprise. They may be able to identify problems that can be addressed by a clinician which would not be identified by any other process of assessment. For example, video-recorded conversations may not contain examples of the types of problems that people encounter in their everyday conversations, simply because the opportunities for those problems may not arise, or because the researcher or clinician does not interpret a behaviour in the same way as the couple.

In addition, analysis of the interview data provided valuable insights that CA alone would not have revealed. This is captured in the thematic analysis and the themes that were identified using this methodology. An understanding of the changes that occur in the role of partners was identified, with changes not only related to responsibilities around caring, but also to a sense of responsibility for roles such as coaching the language skills of people with aphasia. By reporting these role changes here, it is possible that future interaction-focused studies may be able to build on these findings and, potentially explore them, and their impact on response to therapy, in more detail.

In summary, both CA and interviews are very useful methods of exploring aphasia, and the impact of aphasia on everyday interactions and relationships. In this study, using both methodologies on the same participants, and using a broader interview process than the CAPP (REF), has proved valuable from the point of view of designing interaction-focused therapy but has also provided some areas for future investigation in terms of living with aphasia and the challenges that this creates for communication, relationships and identity.

7.5. Limitations

There were three main limitations in the current study. Firstly the analysis of the pre- and post-therapy data was carried out by the author, who was also the treating clinician. It is possible that a second rater may not have treated the behaviours that have been described as evident in the post-therapy data in the same way as the writer. For example, the evidence that Amanda did not collaborate with Sheila's word searches until Sheila made eye contact may have been analysed differently by a second analyst. This could have occurred if the behaviours that have been identified by the writer as representing Sheila being engaged in a word search were analysed as something other than word searching behaviours by a different analyst. It is therefore acknowledged that the study would have benefited from having a second rater to analyse the behaviours, so that any disagreements could have been reviewed and, potentially, resolved. However, the primary supervisor reviewed all the analysis prior to write up, and excerpts of data can thus be examined by other researchers, and challenged if that is deemed appropriate.

The interview format was another limitation. As the study was implemented it became apparent that it would have benefited from an interview that had been designed to explore attitudes and beliefs more effectively. In this study, the interview format was designed to gain some information about how the non-aphasic partners perceived their role in relation to the aphasic difficulties of their partner (which is why the CAPP (Whitworth, et al., 1997) was not used), but this could have been explored in greater detail. Indeed, the attitudinal findings of some of the participants were noticed as a result of their comments at interview, rather than being deliberately elicited by the interview. As a methodology, CA is good at answering 'what' questions, e.g. what action a particular turn is doing, but it is not good at answering 'why' questions. In other words, CA is based on what can be described from the data and not what can be hypothesised about the motivation of the participants, i.e. why they do what they do. This is because the data does not provide the analyst with evidence of the psychological rationale of the participants, so speculation about motivation is based on guesswork rather than anything that can be known about the participants (Heritage, 1984b). It would appear from the findings of this study, that a deeper understanding of attitudinal issues could be relevant to the clinical application of interaction-focused therapy, to complement what is revealed by analysis of the participants' conversations. This could prove particularly useful in terms of

identifying couples for whom focusing on changing attitudes and beliefs through education about aphasia could be beneficial. The development of an attitudinal interview is an area of research that could be developed as a result of this study.

A third limitation of the current study was that not all of the data that were collected have yet been fully analysed. In a previous study (Frankel, et al., 2007) the evidence from a participant with mild aphasia suggested a relationship between turn taking, topic management, and repair sequences, and impaired attention and cognitive flexibility. It was hypothesised that the cognitive limitations of the participant impacted her ability to generate alternative means of conveying messages when conversational troubles arose (Frankel, et al., 2007). Based on the case series design of this study, it is possible that an in-depth analysis of the cognitive data could reveal patterns that would indicate a relationship between cognitive impairments and whether or not participants changed their behaviour as a result of interaction-focused therapy. For example, it was hypothesised that a correlation may emerge between particular cognitive skills such as memory and the ability to recall target behaviours in order to implement them during conversations. It was also hypothesised that a relationship between overall cognitive strengths and response to therapy could exist, because the cognitive demands made by conversation itself could be such that the person with aphasia would have difficulty interacting in a conversation and at the same time consciously employing target behaviours due to the cognitive load that this could represent. The data that were collected in this study have been analysed in a preliminary manner and more detailed analysis is ongoing. However, the preliminary analysis has so far not indicated the existence of any relationships between the cognitive skills of the participants with aphasia in this study and their response to therapy.

7.6. Clinical Applications

This study provided evidence to support the clinical use of interaction-focused therapy, including demonstrating that two new behaviours can be targeted successfully (i.e. the use of eye gaze by people with aphasia to manage when partners should begin to collaborate in repair activity, and how people with aphasia can claim turns by coming into the partners turn spaces), with changes maintained three months after the end of therapy. These both have potential clinical application, where comparable difficulties are identified through data analysis or client report.

However, some aspects of this study could appear impractical for clinical application. For example, a large sample of data was collected and detailed transcripts were used for the behavioural analysis, coupled with interview data. It is recognised that in a clinical setting, the time required to collect and analyse this volume of data is not available. However, even a short sample of video-recorded conversational data such as 10 minutes (Boles & Bombard, 1998), analysed in line with the procedure described in SPPARC (Lock, et al., 2001), used in conjunction with some interview data, should shed sufficient light on difficulties that couples experience to enable therapy targets to be identified and agreed. The video-recorded data would then be available as a valuable tool in helping couples to understand how their individual behaviours affect their interactions, and consequently to motivate changes.

When considering this type of therapy clinically, it should be borne in mind that it may not be suitable for couples such as those who are anticipating further improvement at the impairment level. In this study the participants in the case series were all beyond the period when spontaneous recovery is expected, but were still expecting, describing or hoping for, improvements at the linguistic level. For these reasons, it would appear appropriate for SLTs to offer this type of therapy primarily to couples when they have become relatively accepting of the long-term nature of the disability. However, when there is evidence that couples have developed adaptations that are detrimental to their interactions, clinicians would be likely to address these immediately, even if this was done as more general recommendations and in a less formalised manner. It is possible that couples may be resistant to changing adaptations that they have developed prior to interaction-focused therapy, resulting in less scope for change as a result of therapy. For example, where adaptations have been developed and couples have reached a degree of acceptance of aphasia as a permanent feature of their interactions, speakers may choose to deploy behaviours that minimise attention on the aphasic difficulties of their partner. Therapy that requires the aphasic limitations to be highlighted may therefore be unacceptable. These issues would be valid points to explore during a clinical interview.

7.7. Implications for therapists

It is possible that therapists may not feel qualified or competent to carry out some aspects of interaction-focused therapy. Collecting video data, particularly from the home environment, is not common practice clinically, and may be difficult if camcorders are not readily available in clinics (the writer has worked in two National Health Service SLT clinics in 2013 only one of which had a camcorder available). Planning interaction-focused therapy may be more time-consuming than some more traditional aphasia therapies, such as naming therapy, because the transcription (if completed) and analysis of conversation data is an unfamiliar skill for many SLTs. In addition, analysis of conversational data requires knowledge of phenomena that may not have been encountered during training, or in post-qualification training courses, for example, repair and turn taking. For this reason SLTs may be reluctant to work with such data and whilst the SPPARC (Lock et al., 2001) provides clear and comprehensive guidance, clinicians have a range of other approaches to therapy that they may feel more confident to implement. The fact that interaction-focused therapy addresses the behaviours of the partner of the person with aphasia can give rise to challenges in itself. Partners are typically not accustomed to being targeted during therapy, which some tend to perceive as 'for the person with aphasia', and they may be resistant to suggestions that they make changes to their own behaviours. One partner in the current study (Ingrid) persisted in describing the therapy sessions as "your (i.e. Brian's) speech lessons", despite having received all of the pre-consent information and being fully involved in all aspects of the therapy. In more traditional aphasia therapies, family members may be present in a "carer" type role, for example being encouraged to comment on aphasic difficulties, or shown how to complete language tasks during home practice between sessions. However, it is rare for partners to be equal participants in therapy and to be required to modify their own behaviours in ways that are comparable to the person with aphasia. This may be particularly the case in settings where therapy is offered at a relatively early stage post-onset of aphasia, for example during and shortly after hospital admission, when partners often tend to anticipate, or hope for, remediation of the communication deficits, making this type of therapy potentially less attractive. However, the interest in, and use of, SPPARC (Lock et al., 2004) in clinical settings (Armstrong & McGrane, 2003; Nieuwenhuis, 2005), indicates that interaction-focused therapy is a

welcome additional approach to the therapy options that SLTs can offer to their clients.

7.8. Conclusions

The findings of this study indicate that it is possible to change the conversational behaviours of couples managing aphasia, even when those couples are 15 years post-onset of aphasia. It also reinforces the importance of therapy being individualised, if it is to address the diverse needs of different couples, and displays the value of using CA to analyse video-recorded conversational data to identify problematic behaviours and potential therapy goals. However, the study also raises a number of questions, such as why some couples respond to interaction-focused therapy, but others do not. This study has not provided any evidence to support the hypothesis that adaptations are a valid target for interaction-focused therapy in terms of using existing adaptations as therapeutic tools. More work is required to investigate this possibility.

7.9. Future directions

One important area for future research is why some couples respond to interaction-focused therapy and others do not. It would appear that future studies should investigate the beliefs and attitudes that both people with aphasia and their partners hold regarding this language disorder and, potentially, target these beliefs as part of a therapy programme if they appear to account for problematic conversational behaviours. One potential approach to this could be the development of a differently structured interview schedule, designed to explore attitudes and beliefs. Ideally, this should be developed as a pre- and post-therapy measure so that changes could be evidenced following therapy that targets attitudes and beliefs. This is valid because patterns of behaviour are developed within the context of a relationship and it is not possible to define behaviours as simply positive or negative unless the attitudes of the participants to these behaviours is understood. This is exemplified in the data of Betty and Tina, where CPSs appeared to represent a form of benign pedagogics.

Another aspect of interaction-focused therapy where more work is needed is with couples who are managing aphasic comprehension difficulties. In this study, two of the couples where the partner with aphasia had comprehensions problems, failed to display changes in the post-therapy data. This needs to be further investigated before

clinical application of interaction-focused therapy could be considered for this population.

More research is also warranted into the use of environments of possible occurrence as a method of comparing pre- and post-therapy conversational data. This study provides preliminary evidence that it is a valid method of measuring behavioural change, because it compares what a speaker does each time the opportunity for a particular behaviour presents itself. Therefore, it can be used to compare how frequently a behaviour targeted in therapy is used pre- and post. As this is the first study to report the use of environments of possible occurrence as a measure of the effectiveness of interaction-focused therapy, it would be valid to carry out further research to confirm this study's finding.

During this study many of the interaction-focused therapy sessions were video-recorded. This data could be analysed in a future study to explore the nature of the interactive behaviours that occur between the clinician and couples during interaction-focused therapy sessions. It is possible that such an analysis could reveal a relationship between why some couples responded to the therapy and others did not. Such an analysis would build on work that has already been carried out in respect of impairment-focused therapy for people with aphasia (Horton, 2006; Ferguson & Armstrong, 2004; Simmons-Mackie, Damico, & Damico, 1999) and a multidisciplinary approach to therapy in stroke rehabilitation (Horton, et al., 2011). The data collected for this study is likely to reveal different interactive behaviours due to there being three interactants, one person with aphasia, one clinician, and one non-communication disabled partner. The involvement of the partner would be expected to impact the dynamics of the interaction, and this could affect such things as how the clinician maintains control of the session. Such a study could include analysis of the interactive process of goal setting, as well as the therapy process itself. It is possible that this could result in useful findings about how the goal setting process is enacted in view of the evidence that collaborative goal setting is important for therapy to be effective (e.g. Hersh, et al., 2012).

Additionally, further work is needed to explore how interaction-focused therapy can be applied when couples have comprehension problems. In this study, Betty and Tina were managing mild comprehension difficulties that did not appear to be a hindrance to achieving change. However, Maureen and Edward, and David and Bonnie were both managing more severe comprehension difficulties, and it was not

clear whether or not it was the comprehension difficulties per se, or other factors that resulted in these two couples not responding to the therapy. More work is therefore warranted to understand the usefulness of interaction-focused therapy with this population.

In summary, this study has contributed to the existing literature regarding interaction-focused therapy for aphasia in a number of ways. It is the first to apply interaction-focused therapy in a case series design. In addition, the collection of maintenance data is unusual, and proved valuable in this study for identifying how effectively therapy behaviours were integrated into everyday conversations. This study also set out to target the participants with aphasia as well as the partners, which is untypical of this type of therapy. Finally, the study also provided evidence to support two new therapy targets, as well as replicating some of the findings that have been reported previously. As such, the study adds to existing evidence that this form of intervention has the potential to deliver long term, individualised benefits to couples coping with the impact of aphasia on their conversations.

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