Mild aphasia has received sparse attention in the research literature, despite individuals with mild aphasia reporting significant communication disruption (Cruice, Worrall, & Flickson, 2006). While a small number of treatments have been proposed (e.g., Fox, Armstrong, & Boles, 2009; Graham, 2007; Murray, Holland, & Beeson, 1998), the nature of difficulties reported in everyday discourse remains poorly understood. Clinicians are often challenged when confronted with someone who reports difficulties, but scores well on tests and clinical narrative tasks.

This study explores conversations of a person with mild aphasia engaging in the complex genre of argumentation. Two related but different frameworks: Systemic Functional Linguistics (SFL) (Halliday & Matthiessen, 2004) and Conversation Analysis (CA) (Sacks, Schegloff & Jefferson, 1974) were used to provide a multi-level analysis of the content and dynamics of these conversations.

METHOD

Participants

Laura (71 years) was one year post stroke (aphasia quotient: 93.8 on the Western Aphasia Battery (Kertesz, 1982)). She and husband Jim (78 years) agreed that they talked less since Laura's stroke. Laura stated: "we don't talk much … because it's just not worth it," and described frustrations with expressing opinions and arguing – skills she highly valued. Jim said: "she's always been a person who likes to give people a quick verbal upper cut" and "if Laura wants to say 'I don't agree with what you're saying' …. now that just isn't possible …".

Procedure

Laura and Jim video-recorded four 10-minute conversations involving topics on which they disagreed. Each conversation was transcribed, with utterances initially segmented into turns.

Analysis

Overall discourse organization involved categorising semantic moves within turns by speech function (Halliday & Matthiessen, 2004). Based on an SFL network (see Figure 1), moves were characterized as *opening* vs *sustaining*. Sustaining moves could be *continuing* (elaborating on one's own thoughts*) vs *reacting* (responding to another speaker). Reacting moves could be *supportive* vs *confronting,* and supporting moves could involve elaborating on the other's argument. Types of moves were calculated as a percentage of total moves (see Appendix for examples). The ***conversational dynamics*** of overlapping talk, turn design, and repair (Sacks, Schegloff & Jefferson, 1974) were also analyzed.

At the ***lexical-grammatical level***, evaluative words conveying speakers' attitudes were analysed (Martin & White, 2005; see Appendix for examples), e.g. *good, pointless*. The proportion of independent versus co-constructed evaluations (Armstrong, Mortensen, Ciccone & Godecke, 2011) was also analysed. Grammatical incompleteness, word-finding difficulty, use of non-specific words, and overall propositional clarity were examined.

A second analyst analysed 25% of the quantitative data. Percentage agreements for the different analyses ranged from 78-92%.

RESULTS

Laura and Jim both made 271 moves, with more sustaining than opening moves (see Figure 1). Sustaining moves were mainly reacting, demonstrating each speaker's ability to respond to the other's comments. Laura made fewer continuing moves, elaborating on her ideas less than Jim, who developed his and Laura's points more (Jim=28 instances, Laura=21 instances). The couple used equal proportions of supporting and confronting moves. However, as shown below, Laura's challenges were sometimes qualitatively problematic.

Analysis of overlapping talk showed Laura vulnerable to losing the floor. Of the 88 instances of overlap Laura dropped out most often (56.8% compared to Jim 26.1%). This may have affected Laura's argument development, particularly when Jim overlapped with problematic talk e.g., Laura's turn appears incomplete at "whether" but she stops speaking when Jim begins.

> 34. Laura   oh yes exactly but I mean all those people they really haven't
> 35.   thought it through I don't think these young people er I think it's the same way of
> 36.   people er young people [er] of young people get very enthu:siastic about something
> 37. Jim   [yep]
> 38. Laura [whether]
> 39. Jim   [but how] can you deny that the evidence that climate change is

Laura frequently used semantically vague proforms, light verbs, and fillers which, while 'potentially problematic' (discussed below), achieved progressivity. For example, "to an extent", "er", "um" and "obviously" (see below) added no meaning but kept her talk flowing. Similarly the non-specific "some things" and the light verb "happening" limited her argument development.

> 52. Laura [I think it is to an extent   ] er climate change um in the normal erm (.) way
> 53.   obviously there are some things that are happening in the world that is causing er
> 54.   some things

There were few repair sequences, but these tended to be lengthy (up to 13 turns). However it was notable that Laura resumed her original argument on completion.

At the lexical-grammatical level, Laura's main difficulties were specificity, explicitness and succinctness. Occasionally she would clearly omit a word, but tended to use general words e.g., 'those people'. She also lacked propositional succinctness e.g., when discussing ecumenism:

> *because it's only um some of the catholic churches er and they are trying to um to merge to an extent are trying to improve (I can't even explain)*
>
> *no the two religions um they er have some things in common and they were trying to*

Similarly, when discussing environmental protests, Laura lacked explicitness and clarity at the propositional level:

> *yes and what about the people who are standing up to er in the States and England and here and saying you know cut this and down the other but they all jump on a big plane*

Expression of ideas was also simplified. For example, when discussing new tax laws, Laura contributed only:

> *Yeah well it doesn't work*

The couple used similar numbers of evaluative moves (see Table 1), however Jim used more independent evaluation than Laura, whose evaluative terms were restricted, e.g.:

> *"well he's an idiot" (referring to a politician)*
> *"which I thought is absolute rubbish" (referring to a benefit concert)*
> *"I think it's stupid" (referring to climate change theories)*

DISCUSSION

Although this couple had similar patterns of argument development, linguistic deficits and interactive behaviours emerged that justified their perception of Laura being a less able conversationalist post-stroke. The complex task and the multi-level analysis revealed these, beginning to unpack the nature of the speaker's problems.

Laura's strengths included her range of semantic moves (consistent with reported relatively intact pragmatic skills in aphasia (e.g., Holland, 1977)), and her ability to resume arguments after extended repair sequences, (contrasting with previous findings of conversations disrupted by repair (e.g. Booth & Perkins, 1999; Wilkinson, Beeke, & Maxim, 2003)). However, her pragmatic abilities were affected, as she struggled to elaborate on ideas and maintain the floor, particularly when Jim spoke in overlap. This could logically relate to Laura's lexical/grammatical difficulties, although her use of non-specific words helped her maintain her turn. Individual 'word-finding difficulties' could not always account for her propositional simplification and non-specificity. Further exploration of such complex phenomenon is warranted.

The importance of the interactive behaviours of both speakers was highlighted as central. Laura's dependence on Jim for many of her evaluations, and the functioning of Jim's overlaps, highlight how a conversation partner can assist, or hinder, a speaker's participation. Such findings provide avenues for partner training in more complex matters than have been raised to date in 'supported conversations' (Kagan et al., 2001).

This study demonstrates the potential usefulness of multi-level analysis and complex discourse tasks when assessing someone with mild aphasia and planning intervention. It also highlights the partner's role in facilitating complex functions such as argument development.

REFERENCES

Armstrong, E., Mortensen, L., Ciccone, N., & E., G. (in press). Expressing opinions and feelings in a conversational setting. *Seminars in Speech & Language*.

Booth, S., & Perkins, L. (1999). The use of conversation analysis to guide individualised advice to carers and evaluate change in aphasia: a case study. *Aphasiology, 13*(4/5), 283-303.

Cruice, M., Worrall, L., & Flickson, L. (2006). Perspectives of quality of life by people with aphasia and their family: Suggestions for successful living. *Topics in Stroke Rehabilitation, 13*(1), 14–24.

Fox, S., Armstrong, E., & Boles, L. (2009). Conversational treatment in mild aphasia: A case study. *Aphasiology, 23*(7/8).

Grant, D. (2007). Beyond the simple sentence level: A case study of a client with high level aphasia. In S. Byng, J. Duchan, & C. Pound. (Eds.). The Aphasia Therapy File, Vol. 2. (pp.59-68). Hove: Psychology Press.

Halliday, M. A. K., & Matthiessen, C. M. I. M. (2004). *An introduction to functional grammar* (3rd ed.). London: Arnold.

Holland, A.L. (1977). Some practical considerations in aphasia rehabilitation. In M.Sullivan & M. Kommers (Eds.), *Rationale for adult aphasia therapy.* Omaha: University of Nebraska Medical Center.

Kagan, A., Black, S. E., Duchan, J. F., Simmons-Mackie, N., & Square, P. (2001). Training volunteers as conversation partners using "Supported Conversation for Adults with Aphasia" (SCA): A controlled trial. *Journal of Speech, Language, & Hearing Research, 44,* 624-638.

Kertesz, A. (1982). *Western Aphasia Battery.* New York: Grune & Stratton.

Martin, J. R., & White, P. R. R. (2005). *The language of evaluation: Appraisal in English*. Basingstoke, UK: Palgrave Macmillan.

Murray, L., Holland, A., & Beeson (1998). Spoken language of individuals with mild fluent aphasia under focused and divided attention conditions. *Journal of Speech, Language and Hearing Research, 41*(1), 213-227.

Sacks, H., Schegloff, E., A., & Jefferson, G. (1974). A simplest systematics for the organization of turn-taking for conversation. *Language, 50*(4), 696-735.

Wilkinson, R., Beeke, S., and Maxim, J. (2003). Adapting to conversation: On the use of linguistic resources by speakers with fluent aphasia in the construction of turns at talk. In Conversation and Brain Damage, C. Goodwin (ed.), 59–89. New York: Oxford University Press.

Figure 1.   Speech function analysis: Percentage of different categories of moves used by each speaker (L=Laura, J=Jim)
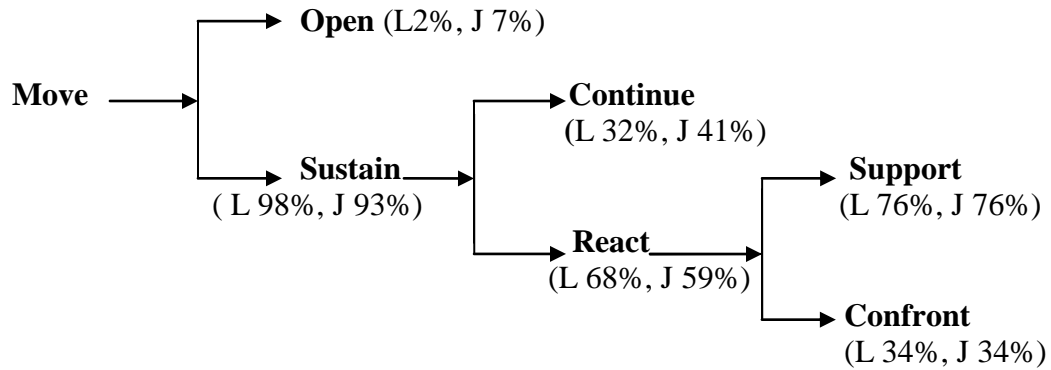
Move →

Open (L2%, J 7%)

Sustain (L 98%, J 93%)

Continue (L 32%, J 41%)

React (L 68%, J 59%)

Support (L 76%, J 76%)

Confront (L 34%, J 34%)

TABLE 1   Instances of evaluative language across the four conversations (C1-4))

	C1	C2	C3	C4	TOTAL	%
Laura Independent	24	17	22	8	71	60%
Laura Co-constructed	12	5	18	12	47	40%
Jim Independent	16	10	47	19	92	82%
Jim Co-constructed	6	2	9	3	20	18%

APPENDIX

Example 1: Discussing a pop concert to highlight climate change (EVALUATION I = Independent evaluation; EVALUATION CO= Co-constructed evaluation)

32.   Jim   Bono knows a lot about everything   [EVALUATION I]
33.   Laura Oh rubbish [EVALUATION CO] [Sustain, React, Confront]
34.   Jim   Bono's a guru [EVALUATION I] [Sustain, Continue]

Example 2: Discussing recent tax changes

33.   Jim   But gee it's getting er so: cheap for imports and so [expensive] for exports
                                                                                [EVALUATION I]
34.   Laura   [exactly] [EVALUATION
                                                                                CO]
                                                                        [Sustain, React, Support]