Abstract

This study explores repair practices deployed by the interlocutor of a speaker with Wernicke's aphasia, their relationship to types of aphasic difficulty, and how mutual understanding and the progression of talk is maintained. A 75 year-old woman with Wernicke's aphasia of 16 months duration and her friend video recorded 36 minutes of conversation at home. Using conversation analytic methods two patterns of other-repair by the non-aphasic interlocutor were identified. The first practice was turn completion, which occurred in the context of self-initiated word search by the person with aphasia. The second was correction in the context of trouble with reference to person or place, manifested as an erroneous word, mis-selection of a gendered pronoun, or use of a pronoun where a person's name was expected. This correction was mainly overt, completed via a short side sequence dealing with the repair, although a few examples were embedded, where a word or phrase was replaced with a corrected form without overtly drawing attention to the correction. None of the examples included an account for the error. Unlike in typical talk, the person with aphasia did not repeat or use the corrected form in subsequent talk. For this dyad, correction and completion function as interactionally acceptable collaborative repair strategies, maintaining progressivity and a focus on topic development rather than on repair itself. There is no evidence that other-correction is dispreferred, which accords with recent findings for typical interaction but differs from other studies of aphasic talk. Correction should not be dismissed out of hand as a negative interactional practice when talking to someone with Wernicke's aphasia.

Key words: Wernicke's aphasia, conversation, repair, correction, completion, progressivity

Introduction

Aphasia is a communication disability resulting from damage to brain regions responsible for language, and is commonly caused by stroke. It is characterised by difficulty in understanding and formulating language, and in reading and writing. The focus of this study is Wernicke's aphasia, characterised by speech that is fluent and tends to show good sentence structure but often appears meaningless because of pervasive word finding impairments (Edwards, 2005). In addition, some speakers with Wernicke's aphasia have impaired auditory comprehension, and can lack insight into their speech errors (Greenwald, 2018). Word-finding difficulties in Wernicke's aphasia can result in semantic and phonemic errors, unrelated word selections, and in some cases of jargon aphasia, the production of non-words (Marshall, 2017). Retrieval of proper nouns is impaired, as it is across aphasia types (Robson, Marshall, Pring, Montagu & Chiat, 2004). Edwards (2005: p. 181) presents an example of the connected speech of a man with Wernicke's aphasia: "he goes about three or four . . . two chaps . . . him and her . . . he has about three or four…pint". This illustrates both a lack of proper nouns (the pronouns have no referents in this story) and the use of incorrectly gendered pronouns ('chaps' for this speaker refers to males, according to Edwards). Gendered pronoun mis-selection in the connected speech of people with Wernicke's aphasia, although also noted by Boles (2015), does not appear to have been systematically studied.

In Conversation Analysis (CA), efforts to deal with problems in speaking, hearing and understanding are termed repair. Repair can be initiated by the speaker of a trouble source (self-initiated), frequently in the same turn as the trouble occurs, or by the recipient (other-initiated), commonly in the next turn, and the trouble can be resolved by either the original speaker (self-repair) or the interlocutor (other-repair) (Schegloff, Jefferson, & Sacks, 1977). Repair is highly organised though it can be placed anywhere; in typical conversation it is

frequently completed within the trouble source turn by the trouble source speaker, without making the problem the business of talk. This reflects a fundamental preference for progressivity, the interactional pressure to progress swiftly and without disruption from one element to a hearably-next element of talk (Schegloff, 2007). Repair is dealt with swiftly in the service of mutual understanding, referred to as intersubjectivity.

This paper is concerned with practices of other-repair, i.e. repair by a conversation partner. Other-initiation of repair deploys techniques for locating a trouble source with varying degrees of precision or 'strength' (Kitzinger, 2013). Weak forms of other-initiation (e.g. 'huh?', 'what?'), known as 'open class' repair initiators (Robinson, 2006) implicate the repetition of an unspecified amount of prior talk (Svennevig, 2008). By contrast, strong forms, such as repeats or candidate understandings, which demonstrate the extent of what has been understood, precisely locate a trouble source and present it back to a speaker for checking (Kitzinger, 2013). In simultaneously specifying the nature of the problem and presenting a potential solution, such forms of other-initiation of repair may promote progressivity in a way that weaker repair initiators, which simply indicate the presence of a problem, do not (Svennevig, 2008).

Correction is the strongest form of other-repair, where both initiation and completion of repair is achieved within the same turn. During correction, an interlocutor produces an item that is a direct alternative to an element of a prior speaker's talk as this example from Kendrick (2015: p. 4) demonstrates:

(2) RCE09

1 Ben: She's ea(h)ting the Butterwo(h)rth

2 di [e(h)t.

3 Jam: → [Bu(h)tterfie(h)ld.

4 (0.9)

5 Ben: Butterfield.

Here, Ben's production of Butterworth (the name of a diet) (X) is corrected by the interlocutor to Butterfield (Y), and is accepted by repetition of the corrected form, resulting in an X,Y,Y sequence. This is an example of what Jefferson (1987) calls exposed correction, which interrupts the ongoing conversational action to become the business at hand. This interruption to progressivity is noticeable and therefore liable to require an account for the trouble (Bergmann, 2018). Unlike exposed correction, embedded correction does not rise to the conversational surface or emphasise a lapse in competence, and crucially, does not permit accounting (Jefferson, 1987). Instead, it is managed implicitly, by substituting a word or phrase used by the prior speaker with a corrected form without any overt marker drawing attention to the correction "so that it barely causes a ripple on the surface of the interaction" (Bergmann, 2018: p. 22). In this example from Jefferson (1987: 92) a customer's use of the term 'wales' (X) to refer to the ridges on a pipe is implicitly corrected by the salesman to 'threads' (Y). It shows the customer accepting the embedded correction by subsequently using the corrected form:

(15) [GJ:FN] ((hardware store: customer trying to match a pipe fitting))

Customer: Mm, the wales are wider apart than that.

Salesman: Okay, let me see if I can find one with wider threads.

((looks through stock))

Salesman: How's this.

Customer: Nope the threads are even wider than that.

Schegloff et al (1977) considered other-correction to be dispreferred interactionally, i.e. speakers overwhelmingly self-correct as a preferred course of action, and interlocutors delay other-initiation of repair. However, Kendrick (2015) in a quantitative investigation of 9 hours and 20 minutes of face-to-face English conversation, reports that the delay before other-correction tends to be shorter (most frequently 200 to 300 ms) than that before other forms of other-initiated repair (most frequently 700-800 ms). According to Kendrick, this is comparable with the gap between polar questions and answers (taken as a proxy for normal turn taking speed, see Stivers et al, 2009) and thus suggests that correction is not in fact oriented to by speakers as dispreferred. Kendrick (2015) finds that correction appears to be restricted to two specific types of trouble source, proper names and mispronunciations.

In the conversation of typical speakers, correction occurs infrequently; it constituted only 6% of Kendrick's (2015) dataset. This may be because in order to produce a correction of a prior speaker's turn, an interlocutor must have an adequate understanding of it. This being the case, they also have sufficient understanding to produce a responsive next turn instead of a correction. Overwhelmingly, this is what interlocutors do (Schegloff et al., 1977).

The linguistic challenges posed by aphasia, not least the word finding difficulties common to all aphasia types, mean that speakers often depend on the participation of others to carry out repair, and resolving trouble may involve lengthy sequences that disrupt ongoing topical talk and progressivity (Wilkinson, 2009). Whilst a preference for self-initiation of repair remains visible in aphasic talk, repair completion is often achieved via collaborative processes (Bloch & Beeke, 2008), and can lead to highly structured hint and guess sequences, as described by Laakso and Klippi (1999). Aphasia may compromise other-initiation of repair in two ways. Firstly, other-initiation of repair indexes a problem with aphasic talk, locating responsibility

for the repair with the person with aphasia (henceforth PWA) (Barnes, 2016). Yet without the benefit of collaborative efforts, repair may be both effortful and potentially unsuccessful (Barnes & Ferguson, 2015). Secondly, weak forms of other-initiation implicate the repetition of an unspecified amount of prior talk (Svennevig, 2008), an effortful process for a PWA that is likely to result in the generation of further trouble sources and consequent delays to progressivity.

Interlocutors of PWA do sometimes engage in correction. Exposed corrections in the form of 'correct production sequences' (Wilkinson, 2006) halt conversation so that a series of turns can be devoted to supplying the correct form of a word for a PWA to repeat. The resulting activity appears pedagogical; it occurs despite intersubjectivity having been achieved, and is designed to improve speech production and promote a PWA to self-repair. Wilkinson (2006) highlights how such sequences reveal a PWA's linguistic incompetence, and displays of frustration are not uncommon as a result. In a study of correction in therapeutic interactions between people with aphasia and speech and language therapists, Simmons Mackie and Damico (2008) also highlight the negative impact of corrections that promote accurate productions over intersubjectivity, linking this to a reduction of self-esteem and communicative confidence. However, Laakso and Godt (2016) describe 'direct' (i.e. exposed) other-correction as frequent and unproblematic in conversations affected by types of aphasia characterised as fluent, including Wernicke's aphasia. In their data a family member corrects an error by producing an accurate version of the target word, which is then accepted by the PWA. This phenomenon constitutes a short side sequence after which the conversational action is resumed, with minimal disruption to progressivity. Importantly, the authors note these unproblematic corrections resolve trouble effectively allowing the PWA to develop a topic. Similarly Ferguson's (1994: p. 153) study of repair and familiarity in nine people with

fluent aphasia concludes that correction provides a conversation partner with a 'speedy remedy for trouble' with less associated risk of extended threat to face than if a PWA was prompted to self-repair. Six of nine neighbours in this study, deemed less familiar conversation partners (although they had known the PWA for many years), showed correction to be their predominant repair pattern; only 2/9 partners living with the same PWA commonly used other-correction. This finding was not replicated in Ferguson (1998), where partners were a familiar and an unfamiliar speech pathologist, an unfamiliar lay person, and another PWA. Of only seven instances of correction found, five were made by the familiar speech pathologist. Both Ferguson's studies and that of Laakso and Godt (2016) suggest other-correction may be tolerated in some 'familiar' conversation partnerships affected by aphasia (although the degree of familiarity is unclear).

Turn completion is a collaborative interactional phenomenon that is used to accomplish a range of actions in typical talk, including agreement and affiliation, the co-telling of a story to a third party, teasing, and pre-empting a disagreement (see Lerner 1996). According to Lerner (1996), certain features of a turn-in-progress permit a speaker the opportunity to enter another's turn to complete it, for example laugh tokens, intra-turn silence and word searches. Anticipatory completion of a turn by another speaker reveals a preference for progressivity as it furthers the progress of the original speaker's turn (and action). In some cases, a completion launches a small collaborative turn sequence involving the acceptance or rejection of the proffered element by the original speaker (Lerner, 2004). While much turn completion is not considered to be repair, some constitutes self-initiated other-repair, notably involving word searches (Lerner, 2013). Some word searches are resolved solely by the speaker but others become sequences involving both the speaker and their co-participant in completion of the search. Lerner (2013) notes that no explicit appeal for assistance is required to establish such

a collaborative framework, and sometimes a co-participant may be best positioned to provide the solution, because of a knowledge differential. Word searches can become long collaborative sequences, but at their shortest a candidate word or words can be proffered as a terminal item completion, as this example from Lerner (1996: p. 262) shows:

(29) [Adato:II]

Jay: Well, I- I pretty much had in mi:nd the:::,

G: the human race.

Interestingly, Lerner (1996) discusses how many word searches are designedly placed near the end of a turn, precisely to provide a place for possible terminal item completion. Terminal item completion is a prevalent form of collaborative word search repair in many aphasia types (Bloch & Beeke 2008; Laakso, 2015; Oelschlaeger & Damico, 1998). By monitoring a PWA's turn-in-progress, an interlocutor may be able to offer candidate words or phrases, with varying degrees of success and precision timing, which a PWA can then accept or reject.

This paper explores the repair practices deployed by the interlocutor of a speaker with Wernicke's aphasia, a long-standing friend. It seeks to answer the following research questions:

1. What other-repair practices does the conversation partner engage in when in conversation with a friend with Wernicke's aphasia?
2. How might these other-repair practices contribute to the maintenance of intersubjectivity and progressivity in their conversations?

Methods

Ethical approval for the project was granted by the UCL Departmental Ethics Committee

(Ref: LCRD.2015.03) as part of the wider Better Conversations with Aphasia project. Written informed consent was obtained (using aphasia-friendly information) by authors 2 and 3, and included consent for the encrypted storage and use of video recordings. Pseudonyms are used throughout to refer to participants, and people and places mentioned during conversations.

Participant information

At the time of data collection, Doris was a retired 75-year-old English-speaking woman diagnosed with Wernicke's aphasia following a left middle cerebral artery stroke 16 months previously. Following inpatient rehabilitation, Doris received community speech and language therapy for approximately 8 weeks, targeting lexical retrieval. Doris was recruited via another study of language comprehension in Wernicke's aphasia, but was not actively involved at the time of recording. Doris chose Pam, also in her 70s, as her interlocutor. Doris and Pam had been friends for over 50 years. Both reported leaving school with few formal qualifications, and they had adult children of similar ages. Pam reported previous experience of communicating with a close relative with aphasia.

Table 1 shows results of the Western Aphasia Battery (WAB, Kertesz, 2007), revealing impairments in auditory verbal comprehension at the single word and sentence level, and severe word finding difficulties, consistent with a classification of moderate Wernicke's aphasia (WAB aphasia quotient 68.4). The Pyramids and Palmtrees Test (Howard & Patterson, 1992) three picture version revealed impaired access to semantic and conceptual information.

Insert table 1 here

Data Collection

Data were collected by authors 2 and 3 (UCL student speech and language therapists at the time) over three consecutive visits during a 1 month period. A digital video camera and tripod

was set up and left in situ between visits one and two, after language assessments were completed. Participants were asked to record everyday conversation on topics of their choosing. A practice recording was made and discarded during the first visit to familiarise the participants with the process. Doris and Pam independently made a single video recording of 36 minutes of conversation in Doris' home, without the researchers being present.

Data analysis

Data were viewed repeatedly in their entirety to identify phenomena related to conversation partner repair practices, drawing on CA methods and previous research on other-repair. Two forms of other-repair were observed to occur frequently in the data: (i) completion, and (ii) correction[1]. Collections were made and each example was transcribed in its broader sequential context using CA conventions (ten Have, 2007). Visible conduct such as eye gaze and gesture was transcribed where these were deemed to be of analytical interest (see Hepburn & Bolden, 2013). The resulting transcripts were used alongside the video recordings to conduct in-depth analysis.

Analysis

In these data, the overwhelming majority of Pam's turns are responsive to extended tellings by Doris. The most common form of other-repair is turn completion (17 instances in 36 minutes of talk), frequently linked to overt word search behaviour by Doris. Correction (12 instances) occurs in the environment of trouble with establishing reference to person or place. This results from Doris' production of an erroneous word, mis-selection of a gendered

[1] Candidate understandings were also present though less prevalent, and are not discussed here.

pronoun, or use of a pronoun to introduce a referent where a full referential form (a person's name) is expected. While these sources of trouble are also a result of word finding difficulty, crucially in correction sequences, Doris does not signal the need for repair.

Completion

Extract 1 provides an example of the most common form of completion: 12 out of 17 instances are terminal item completion, in which a candidate word is supplied by the recipient to complete a speaker's utterance (Lerner, 1996). For Doris and Pam, this pattern resolves a word finding difficulty that Doris has signalled through word search behaviour. The remaining five instances are not terminal item completions as they occur within compound utterances; these are not discussed here. Prior to this extract, Doris speaks about her son, Harry, her grandson, Mitchell (the son of Harry and his ex-wife, Margaret), and Brooke (Harry's current partner).

Extract 1: Completion (00:32:18-47)

001	Doris	she's lovely with him!
002	Pam	⌈yeah (0.5) yeah= ⌉
		⌊((smiling and nodding)) ⌋
003	Doris	=and he's all where you hear her talk to him all the time (.)
004		do you know what he does in the morning (0.8) she'll pick it up today
005		⌈(1.0) ⌉cos she goes: (0.2) that place today
		⌊((closes eyes tightly)) ⌋
006		(1.5) they go back to ⌈mi:ne (0.5) ⌉
		⌊((closes eyes tightly)) ⌋
007		on Friday she has to be off work (.) early (0.8) first thing in the morning
008		with the baby and a:ll she goes in the car wakes up she takes him
009		⌈all the way for ⌉⌈Monday ⌉
		⌊((turns to her right, gaze averted)) ⌋⌊((looks back at Pam)) ⌋
010		⌈(1.8) ⌉
		⌊((Pam gives a slight nod))⌋
011	Doris	to the: (1.0) hh ⌈(1.0)
		⌊((looks down))
012	Pam	school
013	Doris	⌈yeah (1.0) ⌉ ⌈school
		⌊((nodding)) ⌋
014	Pam	⌊°yeahh°
015		(1.0)
016	Doris	and back
017		(1.0)
018	Pam	ahh (.) no she seems nice Brooke=
019	Doris	=she's lovely (.) she's ⌈really lovely
020	Pam	⌊yeah yeah

In line 001, Doris provides an assessment concerning Brooke's relationship with Mitchell ('she's lovely with him'). Pam's response is affiliative (Lindstrom & Sorjonen, 2013). Doris accounts for her positive assessment by mentioning how Brooke talks to Mitchell 'all the time'. She then initiates an extended turn with 'do you know what he does in the morning' (line 004). This telling is characterised by word finding difficulties, evidenced by frequent

pauses, and semantically weak lexical items such as ‘do’, ‘go’, ‘they’ and ‘it’, common to fluent forms of aphasia (Helasvuo, Laakso, & Sorjonen, 2004). There are also non-verbal word search behaviours, such as Doris’ tightly closed eyes, suggesting concentrated effort and solitary search (Goodwin, 2004).

At line 009, Doris turns her gaze back to Pam as she says ‘Monday’, soliciting confirmation of understanding. Given the ungrammaticality of ‘she takes him all the way for Monday’ and the difficulties Doris has encountered during the telling so far, this appears to be treated as a moment for Pam to confirm or display no trouble. She does so with a slight nod during the nearly 2 second gap that follows, which both displays alignment with Doris’ telling and appears to function as a continuer (Schegloff, 1982). In response, Doris extends her turn with ‘to the:’ (line 011), which grammatically projects what is required to complete the turn, namely a place referent. The sequence as a whole provides pragmatic context about the nature of the place (Mitchell, who is 7 years old, is being driven somewhere on a Monday morning). This provides Pam with information about what is required for completion of the turn, with the searched-for word projected to occur as the terminal item (Lerner, 2013). After a 1 second word search pause, Doris exhales audibly and drops her gaze (line 011). This exhalation appears to signal a ‘release’ in the sense of Doris aborting an immediate attempt to speak (the 1 second silence that follows confirms this) and it may also function to display frustration. Either way it provides for conditional entry by Pam into Doris’ turn in order to further its progressivity (Lerner, 1996; Oelschlaeger & Damico, 1998). At line 012 Pam offers ‘school’ to complete Doris’ turn.

At line 013 Doris accepts Pam’s candidate completion by saying ‘yeah’, nodding and repeating the searched for word ‘school’. This repetition does more than accepting and

confirming the end of the repair; it shows that Doris is capable of producing the word herself. Pam's acknowledgment token (line 014) overlaps with Doris' repeat. It represents a rather 'weak' vocal response to Doris' extended turn where Pam's assessment of Brooke's character appears to be due, a view that is reinforced by the subsequent 1 second gap. Following this, Doris adds 'and back' (line 016), thus recompleting her turn and action (her positive assessment of Brooke). This may be dealing with the lack of a sequentially implicated response from Pam. Laakso (2003) notes a tendency for speaking turns of people with fluent aphasia to extend when recipients do not take up opportunities to co-construct talk. After another second, Pam offers a display of affiliation at line 018.

In summary, in these data, terminal item completion is the most prevalent form of other-repair, occurring after trouble-indicating behaviour in Doris' turn, which provides a legitimate entry point to allow Pam to assist. This resembles completion in the environment of word search in typical talk, specifically the type of terminal item completion that expands into a small collaborative sequence that involves acceptance or rejection of the proffered element.

Correction

A prominent pattern of correction in these data is characterised as X,Y,(yeah/nod) (accounting for nine of 12 corrections), whereby a trouble source in Doris' turn (X) is followed by Pam's next turn correction (Y), and on five occasions by receipt tokens ('yeah' and/or a nod) from Doris (for the remaining four examples there is no receipt, Doris continues to talk). Of the three remaining instances of correction not taking this format, two involve Doris substituting a new item in third turn (X,Y,yeah Z) and in one she reverts to X (X,Y,yeah X). In all instances, the trouble source is a person or place referent (erroneously selected, e.g. Australia for America, or distorted, e.g. 'Ragi' for Ricky), mis-selection of a gendered pronoun, or use of a pronoun to

introduce a referent where a person's name is expected, all characteristic of Wernicke's aphasia (Edwards, 2005). Three of the 12 examples constitute embedded correction; there is no overt attention drawn to the error and talk continues without interrupting progressivity. However, unlike in typical embedded correction, where subsequent use of the corrected form Y by the speaker who has been corrected serves to accept the correction (Jefferson, 1987), Doris receipts but does not use the corrected item. The remaining nine are exposed correction, where repair becomes the activity of a short side sequence. Again, Doris does not repeat the corrected form Y. No accounting for errors takes place during any of the 12 corrections; this is often a feature of exposed correction according to Jefferson (1987).

In Extract 2, Doris mis-selects a gendered pronoun ('him'), Pam provides the correct form ('her') and Doris receipts this with 'yeah' and a nod. This is an example of exposed correction; following a short side sequence where correction becomes the business at hand, the previous conversational action swiftly resumes. No accounting for the error occurs. Doris and Pam have been discussing Doris' son Harry and his ex-wife, Margaret.

Extract 2: Correction (pronoun) (00:29:45)

001	Pam	did they stop loving each other then Margaret and: (0.2)
002	Doris	love who
003	Pam	did (.) Margaret and Harry stop loving each other .h or was it because she (.)
004		had an illness
005	Doris	(1.5) no sh- not- not illness as such (.) they gave up .h because in the end (.)
006		it was impossible ⌈living with him
		⌊((looks at Pam))
007	Pam	⌈(1.2) ⌉living ⌈with her ⌉
		⌊((lifts head)) ⌋ ⌊((lowers head)) ⌋
008	Doris	⌈yeah
		⌊((nodding))
009		⌈(1.0) ⌉⌈(1.0)
		⌊((Pam nods, dropping gaze)) ⌋⌊((Doris leans in towards Pam))
010	Pam	°ah⌈hh°⌉
011	Doris	⌊and⌋ it eh- make it- powerf- it was absolutely im:possible (.) it was
012		tai- it was terrible

The extract begins with Pam asking Doris about the reasons for the couple's breakup and suggesting a possible cause, which alludes to prior knowledge that Margaret experienced a period of ill-health. In line 005, Doris rejects Pam's suggestion ('no sh- not- not illness as such'), with a cut-off indicating retraction of 'she' (Lerner, 1996), and at line 006 puts forward an alternative explanation ('it was impossible living with him'). Rather than continuing the 'no-blame' account invoked by Pam's mention of whether they stopped loving each other, Doris' turn is constructed to highlight one person was at fault in the relationship. While her reference to it not being the illness 'as such' (line 005) suggests that the reason may still lie with the person who had the illness, namely Margaret, Doris' use of the male pronoun (in 'living with him') appears to locate the cause of the relationship difficulty with Harry. There is no contrastive stress on 'him' to indicate this switch of focus from Margaret to

Harry. As a result, it appears that Doris' proposed reason neither sits well with the sense of her ongoing turn, nor does it accord with Pam's prior knowledge of Margaret's illness.

Just before completing her turn, Doris re-establishes eye contact, indicating an expectation that Pam will respond. Pam maintains eye-contact but remains silent, slightly lifting her head. A 1.2 second gap ensues. This affords an opportunity for self-repair (Schegloff et al., 1977), which Doris does not take up. At this point, the referent is a source of misunderstanding that makes it difficult for Pam to align with Doris' assessment.

At line 007, Pam initiates repair by providing a correction framed within a partial repeat of Doris' talk ('living with her') (Schegloff, 2004), thereby presenting it back to Doris for review. Pam places contrastive stress on the pronoun, clearly marking it as an alternative to 'him' in line 006. In this way, Pam clearly locates the source of the trouble whilst displaying her understanding of Doris' intended meaning. Thus Pam's turn, whilst correcting, contributes to the maintenance of intersubjectivity. Doris accepts the correction with 'yeah' and a nod at line 008, but does not repeat the corrected pronoun. These turns constitute a short side sequence where correction becomes the business at hand.

In the 2 second gap that follows at line 009, Pam nods and drops her gaze and Doris leans in towards her friend. Pam affiliates with Doris' assessment of the situation with a quiet 'ahhh' (line 010) as Doris adds further details. No explicit accountings are made for the error. The repair sequence is quick and efficient, constituting only minimal interruption to the telling, to which the participants return.

Extract 3 is an example of an embedded correction that simultaneously accomplishes both correcting and responding. Doris and Pam have been chatting about the possibility of Doris moving house, when Doris suddenly initiates a new topic. Mitchell is Doris' 7-year-old grandson.

Extract 3: Correction (proper noun) (00:05:19)

001	Doris	°ohh I don't know if I told you did I (.) you know Mitchell's going don't you°
002		⌈(1.5)
		⌊((Pam is chewing, looking at Doris))
003	Doris	°she's going back to England°
004		⌈(1.0)
		⌊((Pam raises her eyebrows))
005	Pam	>she's< going back to ↑Poland?
006	Doris	⌈(0.8)
		⌊((nodding))
007	Pam	is she ↑rea:lly?
008	Doris	⌈(0.5) ⌉well he sold im (0.5) you know it's Harry's money
		⌊((nodding)) ⌋

In line 001, Doris initiates a newsworthy sequence of talk about Mitchell, in a hushed, confidential tone. Pam looks at Doris but does not immediately respond (perhaps in part because she has a mouthful of food), with the result that a 1.5 second gap elapses (line 002). Doris pursues a remedy to this lack of uptake by providing further information, 'she's going back to England'. Trouble is apparent in the gender mismatch between the initial recognitional form ('Mitchell') and the subsequent pronoun ('she'), and because Pam knows that Mitchell lives in England, so cannot be going 'back' there. Nonetheless, Pam's facial expression (eyes widened and eyebrows raised in surprise) appears to indicate at least partial understanding. Doris does not take up the opportunity to self-repair during the gap at line 004.

At line 005, Pam initiates a next turn repair, embedding correction of the country referent ('Poland') in a turn that mirrors the structure of Doris' utterance and is responsive to Doris' news-telling through intonation that expresses interest and surprise. By using tone, facial expression and a turn format appropriate to receipting news, Pam displays affiliation with Doris' stance (Lindstrom & Sorjonen, 2013). Doris non-verbally receipts Pam's turn at line 006, which serves both to confirm the news and complete the X,Y,nod embedded correction sequence, after which Pam immediately resumes the talk ('is she really', line 007). Pam's continued marked intonation reinforces the significance of Doris' news, and her question invites Doris to continue the telling, which she duly does at line 008. The gender mismatch between Mitchell (the initial person referent) and the subsequent 'she' is not repaired. Pam's correction to Poland (where she knows Mitchell's mother, Margaret is from), coupled with her use of 'she' in line 007 suggests that Pam has understood the person leaving the country to be Margaret ('she'), Mitchell's mother.

In summary, in these data, correction is a frequent form of other-repair addressing referential troubles such as an erroneously selected or distorted word, mis-selection of a gendered pronoun, or use of a pronoun to introduce a referent where a person's name is expected. Pam both initiates and completes repair since Doris herself does not orient to trouble in these turns. The majority of corrections are exposed, constituting a short side sequence where repair becomes the business at hand. Neither speaker orients to them as problematic. Unlike in typical talk, here correction does not result in repetition or subsequent use of the corrected item.

Other-initiated repair in the context of complex trouble

Other-repair practices in these data are not always characterised by swiftly accomplished completion or correction. In Extract 4, trouble with person reference is again the theme, but trouble sources occur at multiple levels including gender mismatched pronouns and kinship association terms, and the use of a pronoun where an initial recognitional form is warranted. This results in a lengthy and complex repair sequence where other-repair is initiated through multiple candidate understandings. Correction does occur, but is delayed by the need to deal with multiple complex trouble sources. The sequence is presented in two sections, Extract 4a and Extract 4b. Doris is attempting to explain to Pam that somebody has a new job. It is later understood, after extensive repair, that this person is Margaret.

Extract 4a: Multiple Trouble Sources (15:13 – 15:36)

001	Doris	so what happened was (0.5) the f(.) fella there >nice fella< (0.3) I
002		think she's an Egyptian ⌈woman⌈>I dunno< ⌉she's
		⌊((eyes closed----------)
		⌊((shakes head)) ⌋
003		⌈born here but, ⌉(0.9) >she said to him look< don't panic
		----------
		⌊((both hands move up and down)) ⌋
004		don't panic (.) and she got him ⌉
		----------))⌋
005		⌈another job ⌉(0.3) from him, (0.5) which
		⌊((opens eyes, moves left hand away from body)) ⌋
006		⌈wouldn't do (0.8) ⌉⌈the job which she's got now ⌉
		⌊((both hands move to the left)) ⌋⌊((both hands move to the right)) ⌋
007		(0.9) she would do one which (0.2) works for teachers but a helper (0.5)
008		⌈thing or something ⌉
		⌊((moves hands back and forth)) ⌋
009		⌈>I <u>don't</u> know what it was< ⌉
		⌊((shakes head)) ⌋

In Line 001 Doris begins an extended telling with a so-preface (see Bolden, 2009) and presents a male non-recognitional referent ‘fella’, followed by ‘I think she’s an Egyptian woman’. It appears that this initial non-recognitional form and the subsequent pronoun are references to the same person, despite the mismatch of gender. Although there is no obvious recoverable referent for ‘there’ (line 001) later context suggests it is likely to be a place of work. Doris’ eyes close as she says ‘woman’, signalling an ongoing but solitary search for the words to continue her story. Over lines 002-003, gender agreement emerges between ‘woman’ and multiple uses of ‘she’. This appears to concretely establish the person being talked about as female (despite the initial use of ‘fella’). No repair is initiated by Doris or Pam; this would halt progressivity and arguably, the accumulation of female gendered referents serve to override the single use of a male referent without the speakers undertaking explicit interactional work to establish gender. In addition, ‘fella’ is designedly a non-recognitional referent, suggesting that full recognition of this person, a woman in the workplace who is a minor player in the story, is not necessary to understand the telling (Enfield & Stivers, 2007). In this sense, although ‘fella’ may be an error, it is designedly unworthy of repair.

Line 003 sees Doris introduce a new person referent, ‘him’, to whom the Egyptian woman/she says ‘look don’t panic’. The use of a pronoun in the absence of a prior recognitional referent (a male name) appears problematic for mutual understanding but Pam does not initiate repair. With Doris’ eyes still closed and an extended turn in progress, an interruption from Pam appears to be a dispreferred action. Reference to the unestablished ‘him’ at line 003 continues in line 004, where Doris conveys that the Egyptian woman/she finds this ‘him’ another job. The telling becomes more complex still as Doris extends her turn by adding ‘from him’. The context suggests this second ‘him’ is a different person to the first ‘him’ i.e. the new job for

‘him’ number 1 comes from ‘him’ number 2. At this point Doris has used an identical pronoun to introduce two successive referents, without either being linked to a prior recognitional form that might differentiate them. Pronoun use exacerbates the issue of who and how many people are being talked about over lines 006 and 007, where a subsequent ‘she’ appears to refer to the referent introduced in line 003 as ‘him’, i.e. the person with a new job (‘the job which she’s got now (0.9) she would do one which…’). Appearing unaware of mounting referential incongruities, Doris attempts to describe this new job (lines 007-009). It is notable that throughout this extended telling Pam does not align herself as a story recipient by offering tokens of acknowledgement or understanding (Jefferson, 1978). Extract 4b re-joins the sequence at line 010 where Pam initiates talk for the first time.

Extract 4b: Extended Repair Sequence (15:34 -15:56)

009	Doris	>I don’t know what it ⌈was< ⌉
010	Pam	⎮are we ⎮talking about (.) uh- we’re
		⌊((raises right hand)) ⌋
011		not talking about Harry we’re talking
012		about hhh (0.6) her
013		aren’t we we’re ⌈talking about, ⌉
014	Doris	⌊no ⌋ we’re talking about him
015	Pam	you’re talking about Harry (1.2) your son
016	Doris	no ⌈not my son ⌉ (0.3) the father (0.2)
		⌊((points towards cabinet of photographs)) ⌋
017		mariu- ma: ma: >what’s her name<
018	Pam	Margaret
019	Doris	⌈hm ⌉
		⌊((nods))⌋
020	Pam	the mother
021	Doris	⌈hm ⌉
		⌊((nods))⌋
022	Pam	right, (.) so you’re talking about ⌈Mitch’s (0.3) mum,
023	Doris	⌈yeah ⌉
		⌊((nods)) ⌋
024	Pam	Margaret=
025	Doris	=yeah yeah

At Line 010, Pam initiates other-repair as she raises her right hand, seemingly in a gesture to indicate Doris should stop talking (Kamunen, 2018). Pam begins to form a question ‘are we talking about’ but self-repairs to a statement, ‘we’re not talking about Harry’. This mention of Harry (Doris’ son) is the first use of a recognitional referent since Doris began her telling, and is in keeping with Barnes’ (2013) observation that when a deviation from the typical pattern of initial proper noun use occurs, participants often supply them in later talk to achieve recognition. However, here, the name is not designed to achieve recognition of who *is* being talked about but rather to rule out who is *not* being talked about. Pam’s re-cast of her turn from a question requiring a candidate person referent, to a statement that excludes from a set

of possible persons, appears to suggest that additional work is needed before Pam is able to proffer a suitable candidate as a form of correction. This is unsurprising given that none of the three referents introduced by Doris have been assigned a recognitional form or even a consistent gender.

Pam's continued repair still does not offer a recognitional referent for who is being talked about. Next she attempts to confirm the person's gender, 'we're talking about…her aren't we' (lines 011-012). Her continuation at line 013 'we're talking about' suggests she is going to offer a recognitional referent next, but this is overlapped by Doris, who emphatically rejects the candidate understanding and reinstates 'him' as the person being talked about (line 014). Pam then builds on this by supplying a recognitional referent for 'him', namely 'Harry' (the same referent she tried to rule out at line 011), this time adding 'your son', an associate reference form of kinship (Enfield & Stivers, 2007) to confirm recognition. Doris rejects the association ('no not my son', line 016), adding her own kinship term 'the father'. She does so whilst pointing to the set of framed family photographs on her cabinet; these are out of shot and it is impossible to tell if this visible conduct aids in establishing the referent. While the semantic category of the kinship term supplied by Doris turns out to be accurate (i.e. the person being discussed is a parent), the gender is wrong. This is revealed by Doris' subsequent attempts at a recognitional referent (followed by a correctly gendered pronoun in 'what's her name'), which contain enough phonetically similar material to the target for Pam to supply 'Margaret' as the missing name (line 018), Margaret being Harry's ex-wife. To add to the complexity of the repair sequence, the parental role that Doris has attempted to invoke is Margaret's association with Mitchell, her 7-year-old son (Doris' grandson). However, Mitchell does not appear to have been mentioned in this telling, since he cannot be the 'he' with a job (Extract 4a).

At line 019, Doris verbally and non-verbally acknowledges that Margaret is indeed who is being talked about. However, the repair sequence continues as Pam retrospectively provides an embedded correction of 'the father' (line 016) to 'the mother' (line 020). Doris again nods and offers a short acknowledgement token. Finally, over lines 022-024 Pam offers a 'right so' prefaced understanding check to achieve a final resolution of trouble. This stitches together all the referential aspects of the repair sequence, including explicit mention of 'Mitch', the grandson, and a repeat of 'Margaret', this time as a stand-alone recognitional reference form (line 024). Thus Pam appears to work not only to resolve the trouble of person reference itself, but also to deal with the misleading information that arose during the repair sequence, exemplifying the active role of a conversation partner in repairing trouble in aphasic conversation (Barnes and Ferguson, 2015). Finally, it is established that the person with a new job is Margaret, despite being referred to as 'him' in lines 003 and 004. Gender confirmation of the 'fella/Egyptian woman' (lines 001 and 002) and recognition of a second 'him' (line 005), is never achieved.

In summary, in some parts of Doris' and Pam's conversation, multiple referential incongruities arise that result in lengthy and complex repair sequences where other-repair is initiated through a series of candidate understandings. Additional trouble sources are generated during these repair attempts. Correction does occur, but is delayed by the need to first deal with complex trouble sources that limit intersubjectivity.

Discussion

This paper has explored other-repair practices deployed by the interlocutor of a woman with Wernicke's aphasia. The first research question concerned the nature of other-repair in these data. Turn completion is found to be the most common practice, however correction is also

frequent. While turn completion deals with self-initiated word search, with Doris providing a place for Pam to assist, correction addresses trouble with understanding person or place reference, where Pam undertakes both the locating and resolution of the problem since Doris herself does not orient to trouble in these turns. Interestingly, correction does not result in repetition or subsequent use of the corrected item, whereas it is possible for Doris to repeat a supplied word form after turn completion. The second research question sought to uncover the contribution of these other-repair practices to the maintenance of intersubjectivity and progressivity in Doris' and Pam's conversations. Both correction and completion accomplish repair swiftly (unless there are multiple referential incongruities) and thus deal with important issues of intersubjectivity whilst prioritising progressivity (Hayashi, 2013). In addition, correction in these data, whether embedded or (more commonly) exposed, appears capable of re-establishing intersubjectivity without calling Doris' competence into question, as suggested by the absence of accounting for errors. When multiple referential incongruities arise, Pam engages in extensive other-initiation of candidate understandings before arriving at the point where simple other-correction is possible.

It is interesting to reflect on the extent to which these two practices can be characterised as other-repair in the typical sense. While correction is considered the strongest form of other-repair and has traditionally been viewed as interactionally dispreferred, Kendrick's (2015) study shows that other-correction turns in English are not systematically delayed, and therefore, in that sense, not dispreferred. Kendrick's work supports the view that correction is rare, and when it occurs it deals with two discrete problems, proper nouns and mispronunciations. Although our findings come from a single conversation between Doris and Pam, the sense is that correction is a frequent part of their talk. There are parallels here with the findings of Ferguson (1994) where other-correction was the predominant repair

pattern for over half of dyads (a person with fluent aphasia and their neighbour). Kurhila (2001) also finds other-correction to be frequent in the 'asymmetric' interactions of second language learners and native speakers of Finnish. This idea of asymmetry hinges on unequal access to the language of the exchange, and has clear parallels with the situation for a PWA. However, in accord with Kendrick (2015), correction in our data does not appear to be dispreferred, and the trouble sources it deals with are similar to those of typical talk; they concern reference to people and places, and aphasic production errors. Only a few instances of correction in the talk of Doris and Pam are embedded, the rest are exposed, where the correction is conducted as a short side sequence. While Schegloff (2000: p. 209) describes embedded correction as 'correction which does not constitute repair', as it does not interrupt the conversational action for repair to become the business at hand, exposed correction does precisely this. However, in these data there is no accounting for errors at all, which is characteristic only of embedded correction, according to Jefferson (1987). In this way, both forms of correction by Pam deal with trouble that is significant for intersubjectivity whilst smoothing over issues of Doris' competence. The practice aids progressivity by only briefly interrupting the forward flow of talk within the sequence. It resembles direct other correction as described by Laakso and Godt (2016) in the conversations of a Finnish speaker with fluent (Conduction) aphasia. It also has parallels with Kurhila's (2001) second language learner data, in which other-correction is described as designedly economical precisely because it lacks the accounts and mitigation seen in typical talk.

However, the correction sequences seen here are different to that of typical talk in another key respect. There is no repetition or subsequent use of the corrected form. While a typical speaker signals acceptance of an exposed correction by repetition, and of embedded correction by subsequent use of the corrected form, Doris does not. On some occasions she

acknowledges the correction with 'yeah' or a nod (this is also seen in the data of Laakso & Godt, 2016), but at other times she carries on talking. Correction is necessarily other-initiated repair; Doris has not oriented to any trouble within her turn, it is Pam who has signalled there is a problem. In this sense, the problem is not completely clear to Doris, and neither therefore is the solution. In typical talk, repetition can often be understood as a way for the repetition-speaker to assert epistemic (knowledge) rights over something that a prior speaker has said (see for example Heritage and Raymond, 2012; Stivers, 2005). Repetition is a more agentive response than a mere agreement token, which does *just* agreement. With the latter, a speaker makes no claim to have a position on a topic (Stivers, 2005). Viewed in this light, Doris' lack of repetition of a corrected form, coupled with the occasional simple agreement, appear to signal limited agency with respect to maintaining intersubjectivity, at these points in the interaction. By contrast, the word finding trouble sources dealt with by completion are signalled by Doris herself. Here she knows in part the nature of the trouble and the parameters of a solution. This may enable her to repeat the candidate word supplied by Pam during terminal item completion. It is possible that the underlying nature of Doris' aphasic impairments may make the use of a corrected word form difficult. For example, a standard aphasia test revealed she was only able to repeat isolated heard words reliably 70% of the time, and the nature of aphasia may render this ability inconsistent. Finally, we cannot rule out the explanation that not using a corrected form is interactionally strategic, perhaps because it allows conversation to continue more swiftly and avoids the generation of further trouble sources.

Turn completion in typical talk achieves many actions, but in the environment of a word search, which creates a conditional entry point into another's turn, it is considered to be other-repair. In these data, terminal item completion functions as a repair practice in the context of

word finding difficulties that are oriented to by Doris herself. For this speaker with Wernicke's aphasia, terminal item completion appears to facilitate the swift resolution of repair in the context of a word finding difficulty in a turn that is otherwise characterised by relatively intact grammar.

While completion and correction support swift resolution of repair, lengthy sequences consisting of multiple repair attempts also occur in these data. Thus it is not the case that the characteristics of talk in Wernicke's aphasia render repair easy to achieve. Mounting referential incongruities that are not oriented to as problematic by Doris can significantly impact on mutual understanding. Although word search is a common source of trouble across all aphasia types, mis-selection of a gendered pronoun, or use of a pronoun to introduce a referent where a full referential form is expected, appears characteristic of Wernicke's aphasia. Although such difficulties have long been noted clinically (see Edwards 2005), we believe this is the first systematic investigation of their impact on everyday conversation.

It is interesting to consider these findings in the light of recent discussion of the thorny issue of robust measurement of everyday communication in speech and language therapy. Barnes and Bloch (2018) point out that measurement tools would do well to focus on standard interactional systems that are known to be relevant for everyday communication, such as turn taking, sequences and repair, since these come with a large body of evidence detailing their organisation in typical interaction to provide a comparison point. This view has much to commend it, not least its focus on the realities of living with a communication disorder. However, a challenge arises when considering repair as a measure, since the assumption is that an increase in repair activities equates with the 'problem' of aphasia, i.e. linguistic trouble sources trigger the need for large amounts of repair that often disrupts interaction, and thus

less repair is the desired outcome of any speech and language therapy intervention. However, it may be the case that these trouble sources cannot be remediated, or that an intervention has not aimed to do so. A focus on other-repair in these data illustrates the point. In the light of Kendrick's (2015) work, correction can be considered a preferred form of repair in typical conversation, at least in English, for dealing with errors of proper names and for mispronunciations, but it is infrequent. However in these data, correction is common, as reported in Ferguson's (1994) investigation of fluent aphasia conversations. This finding has parallels with other types of 'asymmetrical' conversations, such as those involving a second language learner (see for example, Kurhila, 2001). Importantly, there is no sign that either Doris or Pam treats other-correction as dispreferred, which accords with Kendrick (2015), Kurhila (2001), and Laakso & Godt (2016), but not with other studies of correction in aphasic talk that highlight it as a threat to competence (Wilkinson, 2006; Simmons-Mackie & Damico, 2008). If our benchmark is the frequency of repair then Pam's multiple corrections are judged negatively. If we consider prior treatments of correction in studies of aphasic conversation, the fact they appear to call competence into question is judged negatively. Neither measure would adequately capture the achievement of mutual understanding or the successful maintenance of progressivity that we see here. Perhaps then we would do better to focus a measure on successful repair not just its frequency, but then we have the challenge of defining success. We may wish to consider the length of a repair sequence and whether it is abandoned, or whether repair is even warranted in terms of establishing intersubjectivity. In summary, our evolving understanding of how correction in typical interaction may not be dispreferred helps us to make sense of these data, which reveal how correction can be absorbed into peer interaction as an effective practice for dealing with trouble sources that are high stakes for mutual understanding.

It must be acknowledged that this analysis is based on a single 36-minute conversation between interlocutors, one of whom has Wernicke's aphasia. We cannot gauge the prevalence of these other-repair practices for Doris and Pam, neither can we know the extent to which they are individual to this dyad or characteristic of Wernicke's aphasia more broadly. Doris and Pam have a long-standing friendship, and in this conversation Pam is very much the recipient of Doris' news. Pam only introduces topic talk nine times. Although the correction and completion practices Pam deploys to deal with problems of mutual understanding are seen in typical talk, the frequency with which they occur here may be influenced by Doris' role as news teller during this conversation. Nevertheless, these are important findings for other-repair in Wernicke's aphasia, and future research should seek to address the issue of how widespread these practices are.

In conclusion, for Doris and Pam, correction and turn completion appear to function as interactionally acceptable collaborative repair strategies, which aid progressivity and a focus on topic development rather than on repair itself. Turn completion effectively deals with self-initiated word search, whereas correction addresses referential troubles that are not oriented to as such by the speaker with aphasia. There is no evidence that other-correction is treated as problematic or dispreferred, and indeed our evolving understanding of correction in typical talk leads us to reassess dispreference in this context. This suggests that other-correction can occupy equal status with self-repair practices and should not be dismissed out of hand as a negative interactional practice when talking to someone with Wernicke's aphasia. This has implications for communication partner training for interlocutors of people with Wernicke's aphasia.

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The authors report no conflict of interest.

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