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The impact of co-occurring communicative impairments on the understandability of atypical speakers' talk

Contributing to conversation analytic research into 'atypical interaction' (i.e. naturally-occurring interactions involving one or more participants with a communication disorder), this paper focuses on talk by individuals who present with both aphasic language impairments and other communicative impairments, which can be in the form of motor, motor programming or cognitive impairments. It shows how, in three such cases, the co-occurring impairments may each contribute to turns at talk by the atypical speaker which are particularly problematic in terms of their understandability. In each case these trouble source turns result in (1) the production of other-initiations of repair by the recipient which are 'off track', and (2) repair sequences which are notably prolonged. This type of investigation fills a gap in existing atypical interaction research where most analysis has focused on the impact of individual communicative impairments on talk-in-interaction.

Keywords: atypical interaction, conversation analysis, communication disorder, communicative impairment
Asiasanat: epätyypillinen vuorovaikutus, keskusteluntutkimus, kielihäiriö, vuorovaikutuksen häiriö

1 Introduction

This paper contributes to a developing body of research which uses conversation analysis (Clift 2016) to examine how having a communication disorder impacts on a person's ability to talk and interact with others within everyday social encounters (Wilkinson et al. 2020). Communication disorders include, among others, stammering, aphasia (a language disorder acquired following brain damage), dysarthria (a motor speech disorder which typically impacts on the intelligibility of the person's talk), and the communicative impairments associated with dementia, autism or learning disability. The impact of the communication disorder can result in the speaker, and the interaction they are engaging in, being 'atypical' (Wilkinson et al. 2020) compared to the typical interactional practices and recognizable actions (Heritage 2010; Robinson 2016) produced by adult native speaker participants without communicative impairments.

In a recent overview of work in this field (Wilkinson 2019), I outlined some of the recurrent interactional features associated with **individual** communication disorders, such as stammering, and **individual** communicative impairments associated with these disorders, such as agrammatism (an aphasic impairment, where the speaker can present with, for example, reduced complexity of syntax, omission of morphological elements, problems with word order, and a paucity of verbs; Kent 2004). As I noted there, while it can be analytically useful to examine individual disorders/impairments in this way, such a focus neglects an important clinical and analytic issue: namely, that "an individual can of course present with impairments across various areas, and such a situation is not at all uncommon. For example, following a stroke, a person may have both aphasia and dysarthria, as well as an age-related hearing loss that was present prior to the stroke" (Wilkinson, 2019, fn. 1, p. 282). In this paper I will analyse cases where a speaker has more than one type of communication impairment and I examine some of the ways in which these **co-occurring** impairments can impact on the interaction. Since the possible combinations of different impairments can be manifold, the aim here is not to provide any kind of overview of these possibilities. Rather, what is presented is a more limited investigation in relation to one communication disorder—aphasia—and how, when a speaker has a second, co-occurring, disorder/impairment, there is evidence that the nature of the interactional trouble and its impact on the interaction might regularly be different to (and, we can hypothesize, be greater than) cases where the speaker has aphasia alone.

I will discuss three episodes of interaction, each involving a different speaker with aphasia. The co-occurring disorders/impairments across the three people with aphasia are, respectively, dysarthria, dyspraxia (an articulatory programming disorder; Kent 2004), and cognitive impairments, here in the form of executive function deficits (Barkley 1997), which can include working memory, planning and

problem-solving deficits. Each of the three episodes has been written about previously in relation to other analytic issues (i.e. Wilkinson et al. 2011; Wilkinson 1999; Penn et al. 2015 respectively), and further information about each of the speakers with aphasia and their impairments can be found in the relevant publication. Here, the focus is on how in each case the co-occurring impairments can be seen to impact on the interaction.

In each of the three episodes it will be seen that there is a problem for the recipient in comprehending what the speaker with aphasia has said, and that the recipient makes this evident in the form of an other-initiation of repair (Schegloff 2000). While such problematic understandability of the talk is by no means the only way in which co-occurring impairments can be seen to impact upon talk-in-interaction, limiting the analysis here to this particular feature allows for a more in-depth investigation of this type of impact, including some comparison across the three forms of co-occurring disorders/impairments that result in the atypical speaker's talk being difficult to understand.

Participants in interaction use repair practices to deal with problems in speaking, hearing and understanding talk. As Schegloff et al. (1977) discuss in their seminal work in this area, repair can be separated out into two separate activities: repair initiation, where some part of the talk (the 'trouble source') is identified as problematic, and repair outcome (or simply 'repair') i.e. the completion of the repair or the abandonment of the repair attempt. Both initiation of repair and repair can be carried out by 'self' (the speaker of the trouble source turn) or 'other' (another participant).

For any turn at talk by a speaker, the 'next turn' by another participant that follows it is where that participant will display in some manner how that prior turn was understood (Sacks et al. 1974). One function of other-initiations of repair is to display the recipient as having a problem with hearing/understanding an earlier, usually immediately prior, turn at talk. Other-initiations of repair can take various forms, and these can differ in terms of their 'strength' i.e. their capacity to 'locate' a trouble source (Schegloff et al. 1977). Thus, while at the weaker end of the spectrum, 'open class' other-initiations of repair (Drew 1997), such as *pardon?* do not locate a specific element of an earlier turn as the trouble source, other forms can locate a certain item or items as the trouble source (e.g. *forty nine what?*; Drew 1997, example 2) or can provide a candidate understanding (sometimes with *you mean*) of what the speaker meant for the speaker then to confirm or not (e.g. *you mean homosexual?*; Schegloff et al. 1977, example 39). Repair is generally very effective in highlighting and dealing with trouble sources, such that typically a single repair initiation is all that is needed before repair completion is then successfully achieved (Schegloff 1979, 2000). In relation to other-initiations of repair, this means that most commonly only one sequence of other-initiation of repair by the recipient plus subsequent repair work by the trouble source speaker is necessary for the repair activity to be completed. As

Schegloff (2000) notes, however, in typical interaction two or even three other-initiation of repair sequences may on occasion be necessary, and he states that three other-initiations of repair are the most that he has encountered.

2 Analysis

2.1 Aphasia and dysarthria

In Extract 1 (from Wilkinson et al. 2011), Connie, a woman with agrammatism and dysarthria is having a conversation at home with her husband Sam. As the extract starts (lines 01–02), Sam is developing a suggestion he has put forward that the couple should visit California in the following year. In line 03, after some delays in the form of an inbreath, a pause and some search tokens, Connie says /f:æbərɪ/. This utterance by Connie will turn out to be a trouble source turn in that Sam displays a problem in understanding it, as evidenced first by his other-initiation of repair in line 04 in the form of a candidate understanding (*February?*). Connie rejects this guess and re-tries the problematic item, changing the phonetic realisation of the word slightly to /f:ærərɪ/ (line 05). Sam then produces a second candidate understanding (*family?*) which Connie accepts (line 07).

Extract 1

01	S:	stop off in California (0.8) on the way there- in
02		(.) New York on the way there.
03	C:	.hhh ehm (1.4) eh /f:æbərɪ/
04	S:	February?
05	C:	<u>no::!</u> (0.6) /f:ærərɪ/
06	S:	<u>fa</u>mily?=
07	C:	=yeah.
08		(1.2)
09	S:	((*slower and more deliberate*)) <u>fa</u>mi<u>ly</u>.
10	C:	/fæbə:/,
11	S:	fa:mi:ly.
12	C:	fa:mi:ly.
13	S:	that's it. (0.3) family. your family in Am-America.
14		(0.5) ⌈we'll see them.⌉
15	C:	⌊no:::! ⌋
16	C:	(0.3) ((lip smack))
17	S:	family?

18		(1.5) ((C looks crossly at S))
19	S:	sorry (.) °I'm (.) (mistaken)°
20	C:	/fæbəwɪ/ ((lip smack)) (1.3) fa:mi:ly.=
21	S:	=yeah,
22	C:	((lip smack)) Johnny?
23	S:	yeah. (0.7) and they're going.
24	C:	no::⌈:! ⌉ ((looks frustrated))
25	S:	⌊>go on< ⌋ go on sorry sorry go on.
26	C:	eh Johnny,
27	S:	yeah.
28	C:	Mandy.
29	S:	yes,
30		((*C continues to produce a list of family names*))

Of primary interest here is: what does Sam's guess of *February?* at line 04 make evident about the nature of Connie's turn in line 03 as a trouble source? It clearly appears to be the case that the impact of Connie's **dysarthria** on her utterance is one factor affecting Sam's ability to understand her at this point; the phonetic distortion of her attempt to say *family* means that Sam has a problem in comprehending the form of the word she is producing (line 04). At the same time, however, there is evidence that Connie's **aphasia** has also had an impact on making her utterance in line 03 problematic for Sam to understand. As becomes clear as the episode develops, in saying *family* here Connie is attempting to request or propose that the couple change the current activity from having a conversation about the future California trip to doing something that the couple were doing a short time earlier in this interaction, namely Connie practising saying names of members of her family and Sam supporting her in doing this (as eventually happens from line 26 onwards). This extremely compacted (i.e. one word) version of the request/proposal is a consequence of Connie's aphasia, and perhaps especially her agrammatism. Due to this combination of the impacts of the dysarthria and the aphasia, Sam is faced with the task of making sense of an utterance which is both markedly phonetically distorted, resulting in poor intelligibility, and also extremely compacted in its linguistic form for the type of action (a request/proposal) which Connie is here attempting to convey. The result is that Sam's candidate understanding in line 04 is significantly 'off track'; it would appear that his guess is based on (a) his perception of the phonetic form of Connie's talk in line 03, along with (b) an inference as to what this linguistic item might relevantly be if it was a response to his suggestion (for example, *February* perhaps concerning when the trip might take place). As it happens, however, Sam has neither guessed the form of the word correctly nor, it appears, is he aware that the action of Connie's utterance is a request/proposal (to change to another activity) rather than a response to his suggestion about the California trip and the possible stopover in

New York. Further evidence that Sam does not recognize that Connie's utterance in line 03 should be heard as requesting/proposing a change of activity can be seen in lines 13–15 and 23–24. By this point in the conversation he is clear about the word form that Connie has produced (family) but appears to be continuing to try and interpret its action/what Connie means by it by relation to what (to him) is still the ongoing topic of talk i.e. his proposed trip to the USA.

Understanding the form of the lexical item here and the action it is conveying would appear to be reflexively linked: Sam's difficulty in grasping the phonetic form of the word means he is likely to have difficulty in understanding the action (an action which he may not be expecting at this point in the conversation). At the same time, his expectation of what Connie's action here might be (a response to his suggested trip) can influence how he attempts to make sense of the distorted phonetic form of the word (as seems evident here where his 'best guess' at the word Connie is producing—*February*—could make sense as an agrammatic response by her to his suggestion).

It was noted above that one hypothesis about trouble source turns where the trouble was evidently the consequence of more than one type of communicative impairment could be that these turns might regularly be more problematic and impactful for the conversation than trouble source turns which were the result of one type of impairment alone. A specific comparison is not possible here, but at least in the case of the type of trouble source turn examined in the three extracts in this paper, there is some indication that such trouble sources can be problematic and impactful in particular ways. Two, linked, features of such trouble sources and the repair sequences which highlight and attempt to resolve them can be seen in both Extract 1 and also in the two other extracts that follow. First, in such cases the recipient's other-initiation of repair may display that they are having a problem in grasping the precise **nature** of the trouble source i.e. while they are clear that they are finding some aspect of the prior speaker's turn problematic to understand, it emerges that they do not have a good grasp of what exactly it is about that turn that is making it difficult for them to understand it. One way in which this becomes evident is in the fact that the other-initiation of repair is 'off track', as with Sam's candidate understanding in the form of *February?* in line 04 of Extract 1. Second, the problematic understanding can take several 'rounds' of joint work by the recipient and the producer of the original trouble source to resolve (if indeed the problem is fully resolved), meaning that the repair activity can be prolonged and the progressivity (Schegloff 1979) of the sequence/topic underway delayed until the repair is completed. Thus in Extract 1, even after several rounds of joint work attempting to resolve the problematic understandability of Connie's utterance which was originally produced in line 03, there is evidence from Sam's turn in line 23 that he has still not adequately grasped what Connie's utterance there was attempting to convey, even though he has understood by lines 06–07 that the word she is producing is *family*.

Indeed, it is only when Connie embarks on actually **doing** the proposed activity of naming family members that Sam appears to finally come to an understanding (see lines 26–30) of what she has been attempting to convey to him since line 03.

2.2 Aphasia and dyspraxia

The second extract (Wilkinson 1999) comes from a conversation between James, a speaker with aphasia and dyspraxia, and his speech and language therapist in the therapist's office in a hospital. The extract displays somewhat similar features to those seen in Extract 1 in terms of: (1) the other-initiation of repair, which turns out to be another 'off track' candidate understanding, (2) the trouble source turn, which appears to be problematic for the recipient to understand due to its combination of motor production difficulties and agrammatic form, and (3) the prolonged repair attempt which follows.

In lines 01–07 James and the therapist are discussing James' daughter, who currently lives in Germany and works as a ballerina. In lines 04–06 the therapist produces an assertion about the daughter, evidently based on what she's been told in an earlier conversation; namely that the daughter has been with the German ballet company for quite some time. The assertion plus tag question format makes relevant from James a confirmation or rejection of the therapist's assertion (Heritage 2012), with further information possibly expected to be provided by him (if possible), such as a more precise description of how long his daughter has been with the company. It is James' (J) production of /tes/ (line 09) in response to the therapist's (T) assertion that first proves to be problematic for the therapist to understand:

Extract 2

```
01   T:      will she be able to get time off to
02           ⌈come to-?
03   J:      ⌊((shakes head)) no.
04   T:      no so (0.5) right she's been with the-
05           the uh (.) them for (.) quite some time
06           ⌈that⌉ German ballet com⌈pany⌉ hasn't she
07   J:      ⌊yes⌋              ⌊yeah-⌋
08   T:      mm,
09   J:      uhm, ((clears throat)) /te/ - /tes/
10           (0.6)
11   J:      /tes/
12           (0.9)
13   J:      ⌈/tes/              ⌉
14           ⌊((finger spells 'S' on table))⌋
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15    T:        six?
16    J:        no
17              ((finger spells 'S' plus one other letter
18              on the table, then looks at T))
19    J:        /zes/
20              (2.8)
21    J:        /zes/
22              (0.5)
23    T:        Swi:°ss°=
24    J:        =yes
25    T:        Swiss ⌈oh  ⌉
26    J:             ⌊(oh)⌋
27    T:        are they Swiss rather than ⌈Ger⌉man then
28                                         ⌊yes⌋
29    T:        oh right I hadn't realised that
30    J:        no
31    T:        oh:: but they are posted in Germany aren't they?
32    J:        yes
```

It emerges later (lines 23–28) that: (1) the word that James is attempting to say in line 09 (and subsequently in lines 11, 13, 19 and 21) is *Swiss*, but the phonetic production of this word is impacted by his **dyspraxia**; and (2) in saying *Swiss* James is producing an other-correction (Schegloff et al. 1977) of the therapist's talk in line 06, in effect replacing the therapist's description of the ballet company as German with the correct description of them as being Swiss. While James' **agrammatism** may not be impacting significantly on his original trouble source turn in line 09 (since other-correcting the therapist's description of the ballet company as German with the single word *Swiss* could be a typical form of positionally-sensitive grammar (Schegloff 1996) in this context), it does appear to impact on the repair activity here as a whole. This can be seen in the fact that in his subsequent self-repair attempts he continues with a single word form, whereas a typical speaker could here act to clarify the meaning by expanding the utterance into a sentential form (for example, 'they're actually Swiss' or—similar to what the therapist eventually says in line 27—'they're Swiss rather than German').

In this extract, at least some of the silences following James' attempted productions are treated by him as a lack of a relevant response by the therapist i.e. he orients to these silences as implicit displays that the therapist is having a problem in understanding him and he produces subsequent self-repair attempts (see, for example, lines 11–13 and 19–21). When the therapist does produce a candidate understanding, it can be seen to be 'off track' i.e. her *six?* (line 15) displays that—as was also the case with the recipient in Extract 1—she has neither understood the

form of the word (*Swiss*) nor, reflexively, the action that James is producing (here, an other-correction). Instead she appears to be adopting the wrong 'interpretative framework' (Goodwin, 1995) and (similarly to Extract 1) inferring what James might be saying in terms of the utterance functioning as a **response** (*six* here could be a partial response indicating the length of time—such as 'six years' for instance—that James' daughter has been with the company) rather than guessing it may be doing a different action, such as an other-correction. Again, the repair activity is prolonged, with the original attempt followed by several rounds of self-repair attempts by James followed by indications that the therapist is still having problems in understanding James' attempts (lines 09–21). The therapist eventually produces a further, tentative, candidate understanding in line 23, which is subsequently confirmed by James in the following turn.

2.3   Aphasia and cognitive impairments

The third extract is from a conversation involving JD, a woman with aphasia who also presented on testing with a series of executive function deficits (Barkley 1997) which related to cognitive skills including planning, problem solving and goal-directed creativity (see Penn et al. 2015, for further details). She also displayed perseverative behaviour, here evident in the recurrent use of the phrase *woody wood* in her conversation. In Extract 3 she is conversing with R, a research speech and language therapist working on the project to which JD was recruited.

As Extract 3 starts, JD is telling R about her experiences earlier in her life with her partner Pete, who died of emphysema (lines 01–11). As the conversation proceeds, JD then mentions someone who has not previously been mentioned in the conversation, *a scanner girl* (line 13). As is evident from how this conversation develops, both throughout this extract and for some time beyond it (see Penn et al. 2015 for a fuller version of the conversational episode), this person mention (Schegloff 2007) of *scanner girl* is problematic for the therapist to understand. One way in which the therapist's problem with understanding what JD is trying to tell her at these points in the conversation is made evident is through her lack of responses or displays of understanding following JD's mention of the phrase *scanner girl* (see lines 14, 16 and 18 among others). JD can be seen to treat these silences as implicitly indicating R's problematic understanding through her reiteration of the phrase either on its own (lines 15 and 17) or by adding other information to it (lines 20–22). At other times R makes explicit her inability to understand what JD is trying to convey to her with these mentions of *scanner girl* (line 25):

Extract 3

```
01    JD:      (0.9) no money no money.
02    R:       right=
03    JD:      =and casinos ((covers face)) woody wood
04             a mask, and dead.
05             (1.0)
06    R:       ya I rem⌈ember
07    JD:            ⌊(asema)
08             (0.5)
09    R:       mm °emphysema°
10    JD:      mm.
11    R:       mm. (1.4) I remember you told me.
12             (2.4)
13    JD:      and uh:: (0.5) uh::m (0.5) a scanner girl.
14             (0.4)
15    JD:      a scanner girl.
16             (1.8)
17    JD:      a scanner girl
18             (0.5)
19    JD:      (two year:s).
20             (0.5) a goy- a boyfriend,
21    R:       ((nods))
22    JD:      (.) and a (sc)anner girl.
23             (0.4)
24    JD:      uh::m  ((turns to her book on the table))
25    R:       °I'm not getting this  (                )°
26    JD:      B.A.,
27    R:       ja?
28    JD:      (0.3) and a scanner girl. uh woody wood hah
29             (0.3)
30    JD:      a car and a scanner girl. Uh
31             (0.4)
32    JD:      cars.
33             (1.6)
34    JD:      uh cars.
35    R:       he was- (0.3) he sold cars?
36    JD:      no! ((hand to table))
37    R:       (mm)
38             (1.1)
39    JD:      uh::m, (0.4) ((picks up pencil))
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40	JD:	(a wallow)=
41	R:	=oh he was a CA:::::R, (.) like he was a
42		me<u>cha</u>nic.=
43	JD:	=mm
44	R:	he had his own
45	JD:	mmhm
56	R:	body shop
47	JD:	mmhm
48	R:	and he: (0.3) looked after cars
49	JD:	mhm
50	R:	and fixed cars (and)
51	JD:	mhm mm
52		(1.5)
53	JD:	so:, woody wood hah: (1.0) <u>spa</u>nner girl.
54	R:	((*mouths something*))
55		(1.0)
56	JD:	a <u>sca</u>nner girl.
57		(0.4)
58	JD:	a- woody wood a <u>sca</u>nner girl.
59		(0.4)
60	JD:	fixing the <u>ca</u>rs.
61	R:	ja,
62	JD:	<u>B.A.</u> and a <u>sca</u>nner girl! he heh heh
63		((*smiling and silent laughter*))
64	R:	((*silent laughter*))
65	R:	.hh so he had a (.) de<u>gree</u>?=he had a B.A.?
66	JD:	no <u>that</u> one. ((*pointing to book on table*))
67	R:	<u>Pete</u> did?
68	JD:	no <u>that</u> one. ((*indicating herself*))
69	R:	you had a B.A.?=
70	JD:	=mm mm.

One reason why the *scanner girl* phrase is likely to be problematic for R to unders-
tand is because it contains an **aphasic error**; what JD intends to say is 'spanner
girl' (as she correctly produces it sometimes, including in line 53), but because of a
phonemic paraphasia (a symptom of her aphasia) she more commonly produces
the phrase as *scanner girl*. A second reason may be that R does not realise—at least
at the time of JD's earlier uses of the phrase—that *scanner girl/spanner girl* is JD's
way of saying 'mechanic' (and specifically a female mechanic), a word that she evi-
dently has difficulty in accessing and using. Indeed, it is not used anywhere in this
episode. A third, and important, reason why the phrase may be problematic for R

to understand is that R shows no evidence of understanding how JD is **using** this phrase i.e. as a self-mention, where the *scanner girl/spanner girl* in JD's telling is, as becomes clear later, JD herself. R's lack of understanding of this aspect of the phrase is evident, among other places in the extended episode, in lines 30–36 where she shows no sign of understanding that JD's utterance *a car and a scanner girl* is a mention of JD herself. Instead R tries to make sense of it as somehow referring to Pete, as seen in line 35 where her candidate understanding takes the form of *he sold cars?*, a candidate understanding that, in line 36, JD emphatically rejects. It is also evident in lines 62–70 where R displays no immediate understanding that JD's utterance *B.A.* [i.e. a Bachelor of Arts degree] *and a scanner girl* concerns JD herself (see Drew & Penn 2016) and instead produces candidate understandings where it is evident she is inferring it was Pete who had the B.A. (lines 65 and 67).

R's lack of understanding here that *scanner girl/spanner girl* is being used by JD as a self-mention is perhaps not surprising, since JD does not design her turns in a way which makes this self-reference evident (for example she does not use 'I' or 'me' in relation to the *scanner girl/spanner girl* phrase) and neither does she attempt to clarify this aspect of the phrase through self-repair attempts following R's clear lack of understanding in this regard. JD's apparent lack of awareness of how the design of her turns may lead to problems for the recipient in adequately understanding them, and her lack of attempts to clarify this aspect of the utterance following R's evident problematic understanding, can both be understood in relation to JD's **cognitive/ executive function deficits** (see Penn et al. 2015 for details).

As with Extracts 1 and 2, therefore, the candidate understandings by the recipient (for example, in lines 35 and 65) are 'off track'. As with Extracts 1 and 2 one aspect of this may be that there is a problem for the recipient in grasping what the word form is that the aphasic speaker is attempting to produce (since it usually emerges as *scanner*, rather than *spanner*). Indeed, even if and when it is clear to R that JD means to say 'spanner girl', it may be that R does not realise that this is JD's manner of conveying '(female) mechanic'. In addition, however, a significant part of R's understanding problem appears to be that she is not comprehending (1) that JD is using the phrase *scanner girl/spanner girl* to mention herself, and (2) that she is doing this as part of the more overarching activity, carried out over a number of turns, of producing a mild or humorous telling/complaining about working as a mechanic, a role for which she has evidently over-qualified due to having a degree. It is only in lines 69–70 that there is evidence (for R as well as for us as analysts) that R has, at least to some extent, grasped that JD is talking about herself with the *scanner girl/spanner girl* phrase; even after this, however, it is not clear that she has adequately understood what the more overarching 'point' of JD's telling is (see Drew & Penn 2016).

Also, as with Extracts 1 and 2, the attempt to come to an adequate understanding in this episode is a prolonged one; it is only around two and a half minutes after JD's first mention of *scanner girl* that R appears to gain an understanding that JD is

using this phrase to refer to herself as a female mechanic (not shown here, but see Penn et al. 2015). As with the two previous extracts it would appear that the presence of co-occurring impairments, here aphasic and cognitive impairments, contributed to the recipient being unable to understand something about the person with aphasia's talk over an extended period of conversational time.

3   Concluding remarks

In this paper I have discussed three episodes of interaction, each of which involves a person with both aphasia and at least one other, co-occurring, communicative impairment. In each case it was shown how the recipient had notable difficulty, over a series of tries, in coming to an adequate understanding of what the person with aphasia was attempting to convey at this point in the interaction. The repair sequences in these three episodes were particularly notable in two ways which, it was suggested here, are linked:

(1) the recipient's attempt at an other-initiation of repair (here a candidate understanding) was 'off track' in that it could seen in retrospect that the recipient was not grasping something about the trouble source turn that was making it difficult for them to come to an adequate understanding of some aspect of that turn. In effect, the recipient had a kind of 'blind spot' in relation to the nature of the trouble source, and this difficulty in fully grasping what it was about the trouble source turn that they did not understand impacted on their ability to assist in resolving the trouble;

(2) the repair activity was prolonged. In part this was because of the recipient's difficulties in grasping the nature of the trouble source, as outlined above, and in part it was due to the atypical speaker's difficulty in providing a more understandable version of the trouble source turn in their attempts at self-repairing that trouble.

This analysis suggests that these types of trouble sources and the other-initiations of repair that target them are worthy of further investigation, including what role co-occurring impairments may be playing in these repair sequences.

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Appendix: Transcription Symbols

⌈ the simultaneous occurrence of one utterance or non-verbal action with
⌊ another is marked by left-hand brackets at the point where the
   simultaneous occurrence begins

⌉ right-hand brackets mark where the simultaneous occurrence or two or
⌋ more utterances or non-verbal actions ceases

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

(0.5) silences are marked in seconds and tenths of seconds

(.) a full stop in single brackets indicates an interval of around a tenth of a
     second within or between utterances

: a colon indicates a prolongation of the immediately preceding sound (the
   more colons, the longer the prolongation)

. a full stop indicates a stopping fall in tone

, a comma indicates a 'continuing' intonation

? a question mark indicates a rising inflection

! an exclamation mark indicates an animated tone

↑↓ upward or downward pointing arrows indicate marked rising or falling
    shifts in intonation respectively

hhh 'h's indicate discernable aspiration, sometimes laughter

.hhh 'h's preceded by a dot indicate discernable inhalation

£ The pound sterling sign indicates 'smiley voice'

WORD capital letters indicate talk that is spoken notably loudly compared to
      surrounding talk

°word°   degree sounds surround talk which is spoken more quietly than surrounding talk

word   underlining indicates emphasis

>word< the 'greater than' sign first indicates talk that is produced at a faster speed than surrounding talk

<word> the 'lesser than' sign first indicates talk that is produced at a slower speed than surrounding talk

word-   a dash indicates an abrupt cut off to a word or part of a word

(word)   single brackets before and after talk indicate that the transcriber is unsure if this is what was said

( )   single brackets with no talk transcribed within indicates that the transcriber was unable to produce even a best guess at what was said

(( ))   double brackets before and after text indicate that this text is the transcriber's description of something in the interaction

/ /   notation using International Phonetic Association symbols is presented within slash brackets