
Article:
Wilkinson, R. orcid.org/0000-0002-8036-4415 (2019) Atypical interaction: Conversation analysis and communicative impairments. Research on Language and Social Interaction, 52 (3). pp. 281-299. ISSN 0835-1813

https://doi.org/10.1080/08351813.2019.1631045

Wilkinson, R. (2019) Atypical interaction: Conversation analysis and communicative impairments. *Research on Language and Social Interaction* 52; 3; 281-299

Atypical Interaction:
Conversation analysis and communicative impairments

Ray Wilkinson
University of Sheffield

.

Abstract

In this article I review conversation analytic work on 'atypical interaction', that is social interactions where a participant has a communicative impairment. Drawing together some of the main themes and findings in the field, I highlight three forms of atypicality in these interactions, with each linked to more than one type of communicative impairment: (1) atypical forms of delay in TCU progressivity; (2) atypical problems of understandability, intelligibility and hearing; and (3) atypical actions. I also discuss forms of atypicality that appear to arise from one or more participants adapting their talk or conduct to deal with the impact of the impairment within interaction. The article concludes with some considerations of directions that future work in this field might take.

Introduction

'Atypical interaction' refers to social interactions where one or more participants have a communicative impairment, and where that impairment is evident in consequential ways within the interaction. Such communicative impairments are linked to some (usually long-term) condition or disability, for example dementia, autism or hearing impairment. As such, the recurring problems experienced by such participants in interaction are distinct from the type of problem – for example, an occasional word search or difficulty in hearing what another participant is saying – that may be experienced by a 'typical' participant (i.e. here, without a communicative impairment).

There has been a steady, and growing, body of publications, particularly over the last 25 years or so, which have used the method of Conversation Analysis (CA) (Sidnell & Stivers, 2013) and drawn on CA findings about the social organization of interactions involving typical participants in order to investigate various types of atypical interaction. The vast majority of these publications have focused on one form of communicative impairment (e.g. autism or a type of aphasia). In this paper I will bring together this work on individual communicative impairments in order to explore some similarities and differences between different forms of atypical interaction, as well as examining what we currently know about atypical interaction in general as a form of social interaction.

Background to conversation analytic investigations of the impact of communicative impairments within interaction

Before discussing where the study of atypical interaction currently stands, it may be useful to provide some background, both to the nature and range of communicative disorders, and to how CA has been applied in this area over the last few decades.

Communication disorders

Historically, communication disorders have been the focus of attention from a number of academic and clinical disciplines, including medicine, psychology, psychiatry, linguistics, and speech pathology/therapy. As a result, there are a number of competing approaches to the classification of communication disorders (and sub-types of particular disorders).

One broad division of types of disorders that impact on communication is between those that are 'congenital/developmental' (occurring before birth or during development in childhood) and those that are 'acquired' (occurring after the person has developed communication, most commonly in adulthood). Another distinction is between those that are 'organic' (that have an anatomical, physiological or neurological basis) and 'functional' (that have no such known basis). A third type of classification, which is the one which will be primarily used in this paper, is to divide up communication disorders in terms of different areas of competency that are involved in the production of coherent and intelligible talk and other social conduct. These areas of competency can be selectively, or at least to some extent selectively impaired[1]. One system of grouping disorders along these lines is set out below (for further details of these disorders, and for other ways of grouping them, see e.g. Kent, 2004).

Disorders in which speech is impaired

This includes motor speech disorders such as dysarthria, which can be present in people with developmental disorders (for example, cerebral palsy), or acquired disorders (for example, Parkinson's disease or motor neurone disease). Dysarthria can impair the speaker's ability to physically produce intelligible speech due to impairments to motor speech subsystems (articulation, respiration, phonation, resonance). Some people with dysarthria, particularly in more severe cases, may rely on augmentative and alternative communication (AAC) to communicate more than on speech. AAC can range from writing or drawing with a paper and pen, to the use of high-tech communication systems that the person uses to generate text or electronic 'speech'.

Disorders in which hearing is impaired

This includes congenital hearing loss and hearing loss associated with ageing. People with profound hearing loss/who are deaf may use sign language (or 'signed language'), a form of communication that primarily uses the visual-manual channel (as compared to the auditory-vocal channel of spoken language). While hearing loss may not in itself be considered a communication disorder, it can constitute a communicative impairment which impacts on the interaction.

Disorders in which fluency is impaired

The most researched example of this type of impairment is stammering (or 'stuttering'). Stammering is typically described in terms of disruption to the fluency of talk, where that disruption takes the form of repetitions or prolongations at the level of the phoneme or

syllable, or the occurrence of pauses (sometimes termed 'blocks') during the speaker's talk. Causation is not clear-cut, but stammering typically presents as a developmental disorder in children, with onset most commonly occurring between the age of two and five years.

Disorders in which language is impaired

Aphasia is a language disorder that is acquired, typically in adulthood, following some form of brain damage, such as that caused by a stroke. Cognitive abilities, such as memory and attention are usually at least relatively intact (thus typically differentiating aphasia from dementia), and the motor speech subsystems used in the physical production of speech are also typically intact (unless there is a co-occurring motor speech disorder, such as dysarthria). There also exist developmental language disorders which are first evident in childhood but whose effects, in more severe cases, can persist into adulthood. In both the acquired and developmental cases, the disorder is primarily at the level of the linguistic system, and, as such, comprehension of talk and of written text, and the use of language to produce written text can all be impaired, as well as the use of language to talk. Impairments can affect the speaker in all or any of the domains of morphosyntax, semantics or phonology, resulting in, for example, problems in producing vocabulary items and/or well-formed sentences.

Disorders in which cognition is impaired

There are a range of disorders where cognitive functioning is regularly impaired in some manner, with deficits evident in areas such as memory, attention or executive functioning. Such disorders include dementia, traumatic brain injury, autism, and learning disability (or 'intellectual disability'). Speakers with these disorders are often described as having a 'pragmatic impairment' in that it is their *use* of language which can be particularly distinctive or problematic (although in some cases impairments in areas such as lexis or grammar can be evident in addition to, or more than, a pragmatic impairment).

The application of Conversation Analysis method and findings to data of people with communicative impairments

Historically, the application of CA within this area can be viewed in terms of three stages.

First, from the late 1970s and through the 1980s there were isolated studies, particularly focusing on learning disability or aphasia, which drew on aspects of the method or findings of CA but which, in each case, took a different form to that which would emerge in later atypical interaction studies. In some cases, for example, analysis of the data combined CA concepts with analytical tools drawn from other traditions. In the case of research into learning disability, for example, Price-Williams & Sabsay (1979) and Abbeduto & Rosenberg (1980) also made use of speech act theory (Searle, 1969), while Yearley & Brewer (1989) also drew on Goffman's (1963) work on 'stigma'. In the field of aphasia, two brief reports in the Proceedings of the 1980 'Clinical Aphasiology' conference each used findings from CA studies to examine features of aphasic conversation. In neither case were the observations developed into a systematic set of evidence-based findings, in part because of the brevity of the reports. Lubinski, Duchan & Weitzner-Lin (1980) drew on CA work on repair to provide a taxonomy (but with no transcripts) of what they termed 'breakdowns and repairs' in a woman with aphasia during brief conversations with (a) her husband, and (b) her speech-language pathologist. Schienberg & Holland (1980) used the Sacks, Schegloff & Jefferson

(1974) findings on turn-taking to examine a conversation between two men with Wernicke's aphasia. Later research combining CA with other methods and analytical approaches includes, for example, investigations of Alzheimer's Disease interactions by Hamilton (1994).

The second stage of atypical interaction research was established by the mid-1990s. At this point, publications were appearing which, compared to those earlier, were more recognizably within the conversation analytic tradition. Data from naturally occurring interactions were used and transcribed extracts were provided, typically presented using the standard conversation analytic (Jeffersonian) transcription system. Analytic claims about, for example, how autism or aphasia impacted on interaction in systematic ways used a form of 'comparative analysis' (Drew & Heritage, 1992), drawing on CA findings from typical interaction to uncover what was atypical (or not) about interactions involving people with a particular communicative disorder/impairment. While aphasia continued to be an area of analytic focus (Goodwin, 1995; Wilkinson, 1995), interaction involving people with other types of communicative impairments were also now being examined, including people with autism (Local & Wootton, 1995), and also deaf people using sign language (McIlvenny, 1995)[1]. Over the last twenty-five years, a number of conversation analytic publications have been produced on a range of individual disorders/impairments, including collections of studies on aphasia and related disorders (Hesketh & Sage, 1999; Goodwin, 2003a; Wilkinson, 2015), dementia (Mates, Mikesell & Smith, 2010; Plejert, Lindholm & Schrauf, 2017), hearing impairment (Egbert & Deppermann, 2012), and dysarthria/hearing impairment (Wilkinson, 2013a).

In the last decade or so, a third stage has begun, as research on different individual communicative disorders/impairments has started to be drawn together and the field of Atypical Interaction has taken shape. Literature overviews discussing how different disorders/impairments display similarities and differences in how they impact on interaction have been provided by Wilkinson (2008, 2013b, 2013c), Garcia (2012) and Antaki & Wilkinson (2013). Empirical studies of how particular interactional features of conversations involving people with different types of communicative impairment compare with each other include those by Bloch & Beeke (2008) and Wilkinson, Bloch & Clarke (2011). In recent years, international conferences on 'Atypical Interaction' have been held in Sheffield (2013), Odense (2016) and Helsinki (2019).

In summary, atypical interaction now appears to be an established area of study, with those working within it sharing a boundaried area of investigation (naturally occurring social interactions involving one or more participants with a communicative impairment) and a common methodology (Conversation Analysis).

Atypical interaction: the current position of the field

In this section I will draw together findings from research on various forms of atypical interaction. Given the space available, this survey cannot attempt to be exhaustive. Rather, the aim is to highlight some key themes that emerge from the research into different types of communicative impairment and to position this work within the wider field of atypical

interaction. Before presenting this overview, however, it may be useful to make clear what is being discussed and how key terms are being used.

First, while it might reasonably be assumed that research into atypical interaction would usually target its enquiries at the level of a particular *communication disorder*, such as aphasia, and how that disorder impacts on interaction, in practice research often focuses on a subordinate level i.e. on the impact on interaction of a *type/variant* of the disorder or of a particular '*symptom'/impairment* associated with that disorder. The reason for this is that many disorders are heterogeneous, with several different types or variants[2]. As such, a piece of atypical interaction research will often focus on one type/variant of a disorder (such as Alzheimer's Disease) and/or a specific symptom or impairment (such as anomia in speakers with aphasia).

Second, another form of 'variability' in disorders which commonly makes it difficult to provide general statements about how a disorder impacts on interaction is its severity. A disorder can present in forms which range from mild to severe. As Hamilton (1994), for instance, shows, the impact of dementia of the Alzheimer's type (DAT) on conversation differs significantly depending on whether the disease in its earlier (mild) stage or later (severe) stage. In some disorders notable differences in severity can occur not just across different people with the same disorder, but also in the same person over time, as, for example, Hamilton (1994) highlights in her single case examination of deterioration due to dementia over time.

Third, most research which is interested in examining the impact of a communicative impairment on interaction will preferably do so within one particular form of interaction i.e. *conversation*, rather than within, for example, some form of institutional interaction, such as that between the person (or persons) with a communicative impairment (henceforth PWCI) and a health professional. One reason for this is that observing the PWCI in conversation with familiar family members or friends might be expected to provide a more 'ecologically valid' picture of how the communicative impairment impacts on everyday interaction and how the PWCI and other participants have come over time to adapt their talk/conduct to deal with the possible impacts. Another reason is that conversation constitutes the 'basic' or 'primordial' form of a speech-exchange system and is the setting for which, and within which, talk evolved both ontogenetically and phylogenetically (Schegloff, 2006). As such, it would seem useful to also study disorders of talk and other communicative conduct in this setting. In what follows, therefore I will focus primarily on the impact of communicative impairments on conversation.

The survey is in two parts, each discussing a distinct way in which these interactions are atypical. Part one provides a framework within which different forms of atypical interaction can be grouped based on how the communicative impairment regularly becomes evident through the PWCI's talk/conduct. Following this, a second, shorter, part discusses talk/conduct by the PWCI and/or another participant which can also be seen as atypical, but where that atypicality appears to arise not as a relatively 'direct' manifestation or consequence of the impairment, but rather from how one or more of the participants *adapt* their talk or conduct to deal in some manner with the impact of the impairment within interaction (see Heeschen & Schegloff, 1999, 2003; Wilkinson, Beeke & Maxim, 2003).

A framework for grouping how different communicative impairments become evident within, and impact upon, conversation

In this section I highlight some recurrent features of how different communicative impairments become evident within the PWCI's talk and examine how these different impairments compare to each other in their manifestations and their impact on conversation. In particular, I consider in what ways features of conversations involving people with communicative impairments are 'atypical' or 'marked' (Robinson, 2016) compared to those involving typical speakers. As will be discussed, the utterances of PWCI can be atypical in terms of, for example, their linguistic turn design or their phonetic realisation. In addition, the talk of the PWCI may, in various other ways, present a departure from the normative conventions that typical speakers are expected to orient to in their talk and conduct. It is the participants' reflexive awareness of, and orientation to, these shared norms that results in talk and conduct in interaction that can be perceived as 'normal' or 'typical' (Garfinkel, 1967; Robinson, 2016). At the same time, such reflexive awareness by the participants means that any departure from the norm will be noticeable and potentially accountable and 'motivates the search for the special conditions that can explain why it was not met' (Heritage, 1984: 246). In the case of typical participants, these departures from the norm will be considered (by both participants and analysts) in light of the fact that the speaker 'could have done otherwise' (Heritage, 1987: 243) i.e. could have acted in accordance with the norm, thus triggering inferences as to what the speaker is attempting to achieve through this departure. This can be the case too with atypical participants of course. However, with atypical participants regularly such departures from the norm can highlight as a reason for the departure the speaker's communicative impairments and his/her identity *as* an atypical participant.

Three main forms of departure from the norm will be outlined below i.e. (1) atypical forms of delay in the progressivity of turn-constructional units; (2) atypical problems of understandability, intelligibility and hearing; and (3) the production of atypical actions. As will be shown, these are rather generic types of issues within atypical interaction, as evidenced by the fact that they can occur across participants with different types of communicative impairments. The point here is not that a particular communicative impairment will invariably lead to the types of atypicality outlined here (see, for example, the points about the variability within a particular communication disorder made above); rather what is outlined here are highly recurrent features of conversations involving participants with these types of communicative impairments.

1. Atypical forms of delay in the progressivity of the TCU

There is a preference for progressivity in interaction whereby next parts of units, such as sequences or turn-constructional units (TCUs) (Sacks et al., 1974), should indeed come next after the prior (Schegloff, 1979)[3]. Within TCUs this preference entails that each word should be hearable as a 'next' word and indeed each syllable and even sound be hearable as a next one as projected by what has preceded. Delays to progressivity are accountable (Robinson, 2006) and prompt an examination by hearers of what the import of the delay might be (Schegloff, 2007).

The impact of some communicative impairments becomes evident in the form of delays to the progressivity of the PWCI's TCUs. One such impairment is anomia, a common symptom

of aphasia (Kent, 2004)[4]. Anomia (or 'word finding difficulties' as it is often referred to in the aphasiology literature) can present in various ways within conversation, regularly linked with self-initiation of repair (Schegloff et al., 1977). For example, the speaker may produce a word search, with an 'uh(m)' and/or pause acting as a self-initiation of repair, or may produce a lexical error which is then treated as a trouble source through the speaker self-initiating repair on it, often in an effort at replacing (Schegloff, 2013) the error.

Repair activity will always delay the progressivity of the ongoing unit to some degree. For typical speakers, however, in the case of self-initiated repair this delay is usually minimized through self-repair being achieved quickly, with, in most cases, only a single repair 'try' being needed (Schegloff, 1979). For speakers with aphasia, however, the anomic problem that was implicated in the occurrence of the initial trouble source can also regularly create difficulty for the person with aphasia in achieving self-repair of that trouble (Wilkinson et al., 2007). Two, related, consequences can result from this. One is that the repair trajectory from the first repair initiation on a particular trouble source to the outcome of the repair attempt on that trouble (i.e. self-repair, other-repair, or abandonment of the attempt) may regularly be noticeably longer than that seen in the talk of typical speakers, with more than one repair 'try' being employed. This constitutes a dispreferred and accountable form of TCU - and repair - production compared to (relatively) fluent word-by-word production to TCU completion. The other is that the repair attempt may regularly end not in self-repair by the speaker with aphasia but with an other-repair (Helasvuo, Laakso & Sorjonen, 2004; Laakso & Godt, 2016), an action that is dispreferred relative to self-repair. A further consequence of the anomia is that the speaker with aphasia may self-initiate repair within their talk more frequently than would usually be seen in the talk of typical speakers. The fact that repair attempts can be both frequent and long (relative to those of typical speakers) means that it is not uncommon for significant numbers of TCUs of speakers with anomia to be impact on, and therefore delayed by, repair attempts self-initiated by the speaker with aphasia.

Extract 1 provides an example of self-initiated repair activity in the talk of an aphasic speaker with anomia, Derek, during a conversation with his wife Jane. Here the couple are talking about Derek's plans to cut down some trees in the garden to a lower height.

Extract 1 (from Wilkinson et al., 2007, transcription slightly adapted)

```
01      Derek:  but I did ask Ron,
02      Jane:   yeah,
03      Derek:  and er (0.4) he said how- how (.) big is it?
04              (.) and I can't remember now = it's something
05              abou:t, (1.0) he said if it is only a sh:allow
06  →           one, (0.4) eh >not shallow (.) its only a<
07  →           (1.4) uh:m (0.3) tch!□>what's the word<
08  →           eh: (0.9) eh: a s:lim:, (0.5) >not a slim<,
09  →           (0.6) a th:::in a:rea (0.5) cos he said
10              they're not particularly ⌈strong,          ⌉
11                                       ⌊((gestures' big'))⌋
12              (0.3) b⌈ut  they⌉ are
13      Jane:          ⌊ yeah  ⌋
14      Derek: ⌈whippy.             ⌉
15             ⌊((gestures movement))⌋
16      Jane:  ye:s.
17      Derek: and they're not,
18  →          ⌈they're not °not fat what's the word°⌉
```

```
19  →           ⌊((gestures circle with hands))      ⌋
20  →  Jane:    they're not full?
21  →  Derek:   yeah but they're ⌈not (0.6)          ⌉
22  →                           ⌊((gestures circle))⌋
23  →           °uhh° (0.6) they're not like a (0.7)
24  →           an oak, it's ⌈not like ⌉
25  →  Jane:                 ⌊oh I see,⌋ they're not solid=
26  →  Derek:   =solid.
27      Jane:   (but) no,
28      Derek:  they're more whippy:
```

A number of the points raised above are evident here. After Derek self-initiates repair in line 06 (identifying 'shallow' as an error) the attempt at producing a replacement (due after 'a' at the end of line 06) is not successful and the repair gets converted (Schegloff, 1979) into a search (lines 07-08). Eventually 'slim' is produced as an outcome of the search (line 08). This is hearable as a replacement for 'shallow' and could constitute the end of the repair attempt. However, following its production, that word too is rejected and a further repair try is made, this time yielding 'a thin area' (line 09).

A few turns later a further self-initiated repair attempt by Derek is made on a different trouble source (line 18). Here he launches a word search by first stating what the target word is *not* (line 18). Jane produces a candidate other-repair (Oelschlaeger & Damico, 2000) in line 20 of what the word might be that Derek is searching for, but he rejects this (with 'yeah but') and launches a further try (line 21). This try is itself disrupted, with a first attempt being left verbally uncompleted (lines 21-23), and a second attempt being made using the same phrase ('they're not' in line 23). Jane again comes in with an other-repair (line 25), which this time it is accepted by Derek (line 26).

Twice in quick succession, therefore, repair activity self-initiated by the person with aphasia noticeably delays the progressivity of the TCU in reaching its next word and a transition-relevance place (TRP) (Sacks et al., 1974). Derek's anomia here appears to be instrumental in how the trouble sources arise, their frequency and nature (i.e. words, such as 'solid' which typical speakers might not commonly have difficulty with) and the problems Derek has in achieving quick and successful self-repair of them.

Let us now turn more briefly to a different type of communication disorder. While there has been very little research on stammering using CA (though see Tetnowski & Damico, 2001; Acton, 2004), it would appear that this is another type of communicative impairment where a core feature of how the impairment presents is delayed TCU progressivity. While in the case of anomia in aphasic talk the problem with TCU progressivity is primarily in the form of progressing to a next *word* that is relevantly due, with stammering the issue typically appears to be primarily at the finer-grained level of the *phoneme* or *syllable*, and in particular progressing to the next phoneme/syllable due.

This can be seen in Extract 2. Here, Mick, a young man with a stammer, is phoning a doctor's surgery to make an appointment. The phone is answered by the surgery receptionist ('Rec'):

Extract 2 (from Morris, 2015, transcription adapted)

```
01              ((Mick dials a number; sound of phone ringing))
```

```
02      Rec:    good morning the surgery good morning?
03  →   Mick:   uh-uhm h-h-h-h-hi uhm
04  →           a-a-a-a-I-a-a-a-a-a-I-I would like to book ay-ay-
05  →           ay-ay-ay-ay-ay uhm (0.5) uhm uhm uhm
06  →   Rec:    appointment yes?=
07      Mick:   =yes
```

After the receptionist answers the phone it is relevant for Mick as the caller to speak next. He first (line 03) attempts to provide a greeting. He produces some markers of delay ('uh-uhm') then four productions of the first phoneme of the word ('h') before being able to produce the word in full ('hi'). He then tries to give his reason for calling. There are several attempts at saying the first word ('I'). There is then some fluently-produced talk ('I would like to book ay') before he again becomes markedly dysfluent in attempting to produce the rest of the utterance that would constitute a complete TCU and the potential end of his turn. After several repeats of 'ay', a pause and some delay markers (lines 04 and 05) the receptionist provides a candidate completion (line 06) of the utterance that Mick was clearly having difficulty completing by himself.

2. Atypical problems of understandability, intelligibility and hearing

In the case of anomia and of stammering discussed in the previous section, it could be seen that the impairments manifested themselves in the PWCI's turn and were also first oriented to as problematic (in the form of self-initiations of repair or re-tries at progressing to the next due syllable/sound) in 'first position' (cf. Schegloff, 1992) i.e. within the PWCI's turn. With other types of communicative impairment, however, a regular pattern can be that a speaker's turn is first treated as problematic not in that turn itself but via repair initiated in a later turn. Most commonly this takes the form of other-initiation of repair (hereafter, OIR) in 'second position' (Schegloff, 1992)[5].

In interaction generally, speakers are accountable for designing and producing their utterances in a manner which allows hearers to ascertain what the speaker was attempting to convey (Robinson, 2016). Certain types of communicative impairment can, however, regularly impact on the PWCI's ability to produce utterances which are phonetically intelligible or which are understandable to a recipient. Two such impairments will be discussed here: agrammatism and dysarthria.

Agrammatism is an aphasic impairment which can present itself in talk in the form of reduced complexity of syntactic structure, omission of morphological elements, word order problems, and reduced ability to produce verbs (Kent, 2004). As such, agrammatism can have a significant impact on the turn design of the speaker with aphasia's utterance. This can result in a problem for the recipient in understanding what the speaker with aphasia was trying to convey in that utterance. Commonly this will be displayed through the co-participant producing an OIR in the form of a candidate understanding, making relevant a confirmation or rejection by the aphasic speaker in the next turn (Heeschen & Schegloff, 1999; Beeke, Wilkinson & Maxim, 2007; Laakso & Godt, 2016)[6].

An example can be seen in Extract 3. Roy, a man with aphasia, and his daughter Di have been discussing Di's job of working with children as a nursery nurse and Di's plan to train as an assessor of nursery nurses.

Extract 3 (from Beeke et al., 2007, transcription simplified)

```
01      Roy:    uh- u::::: e- int'restin' acshully, (0.3) uh-
02              bu- bi- bicuz- ⌈(2.4)
03                             ⌊((hand movement))
04              er now, (2.1) me:,
05      Di:     Mm
06      Roy:    ⌈(0.3) I:, (0.9) think no, (0.5)
07              ⌊((shakes head))
08              er=er- (0.7) u-=special. (0.3) honestly.
09   →  Di:     what, working with children.
10   →  Roy:    yeah, definitely.
11      Di:     yea:h ⌈not ev       ⌉ryone can do it
12      Roy:          ⌊>°definitely°<⌋
```

After providing an assessment of what Di has just said ('interesting actually' in line 01), Roy goes on to say 'me..I think no..er..special..honestly' (lines 04, 06-08). In response (line 09), Di produces a candidate understanding concerning part of what Roy has just said, which Roy then confirms (line 10). Di's candidate understanding displays the result of inferential work she apparently has had to do to try to understand what the different parts of Roy's agrammatic turn mean and how, in the absence of conventional morphosyntactical structuring, they link together. In effect, it seems Roy has been trying to convey that he does not think he could do the kind of job Di does and that it (or maybe the people who do it in general, or Di in particular) are 'special'. Once Di has clarified what Roy means, she goes on to agree with what he has said (line 11).

In the case of dysarthria, it is the phonetic distortion of the speaker's talk which is primarily responsible for the recipient having a problem in ascertaining what the speaker means. It has been noted (Bloch & Wilkinson, 2009) that very commonly speakers with dysarthria do not self-initiate repair in an effort to make their talk more intelligible to their co-participant(s). Rather, it is typically the case that it is a co-participant who first treats certain instances of the person with dysarthria's talk as a trouble through producing an OIR on it (Bloch & Wilkinson, 2009; Rutter, 2009). It is not uncommon, particularly in the case of speakers with more severe dysarthria, that the dysarthric speaker's first self-repair attempt following the OIR will still not be intelligible to the recipient, and a further other-initiated sequence may be launched. The attempts can continue until either the recipient displays an adequate understanding of what the dysarthric speaker means or until the series of attempts is abandoned (Griffiths, Barnes, Britten & Wilkinson, 2015).

While both agrammatism and dysarthria can, therefore, impact on the PWCI's ability to produce intelligible and understandable utterances within interaction, the nature of the trouble is different between the two types of impairment (i.e. linguistic turn design versus phonetic distortion), and this can have implications for the form of repair initiation deployed by the co-participant. In dysarthric conversation the phonetically distorted nature of the talk can regularly result in the co-participant producing forms of OIR which are 'weaker' (Schegloff et al., 1977) than the candidate understandings which are regularly deployed by co-participants of speakers with agrammatism. For example, if few or any words in the dysarthric speaker's turn are intelligible to the co-participant, an open-class repair initiation (Drew, 1997), such as 'mm?' may be used, displaying there something about the turn in a

more global sense that was proving problematic for the co-participant to make sense of (Bloch & Wilkinson, 2009).

An example of the talk of a speaker with dysarthria being treated as a trouble source can be seen in Extract 4. Here, Mary, a woman with dysarthria due to motor neurone disease, is having a conversation with her husband Stan. Stan asks her why she is fond of the day centre (Saint Floribus) she attends (lines 01-02 and 05).

Extract 4 (from Bloch & Wilkinson, 2013, transcription slightly adapted)

```
01      Stan:   I was just thinking you know you °y-y-ye° (3.0) you
02              know you like going to °hh (1.2) Saint Floribus,
03              (1.0)
04      Mary:   ⌈mm      ⌉
05      Stan:   ⌊why d'you⌋ like it so much.
06              (1.8)
07      Mary:   (because maybe) (1.0) the people there (1.0) are
08              (.) ↓kin(d). ((utterance phonetically-distorted))
09  →           (0.5)
10  → Stan:     °hh (it's) what?
11  →           (0.3)
12  → Mary:     very (1.0) ↓kind ((utterance phonetically-distorted))
13  →           (1.5)
14  → Stan:     they're very kind?
15  →           (0.2)
16  → Mary:     ((nods)) mm
17  →           (0.2)
18      Stan:   yeah but it can't be just that can it
```

Mary's answer to Stan's question is phonetically-distorted and has gaps within it due to her dysarthria. It proves to be problematic for Stan to fully make sense of, and indeed the form of his OIR, which appears to be 'its what?', does not seem well-fitted to what Mary has said in her prior turn and may be partly based on a mis-hearing of her talk at this point. Mary appears to interpret the 'what' in Stan's turn as locating the final word in her prior utterance as a trouble, and in her self-repair attempt (line 12) she re-does that, with the addition this time of 'very'. Stan, however, still does not appear to fully understand or find intelligible what Mary is saying and produces a further OIR (line 14). His 'they're very kind?' offers to Mary for confirmation his understanding of what he believes Mary has just said to him and what she means by that. Mary now confirms that interpretation by Stan (line 16).

As with agrammatism and dysarthria, conversations involving a participant with a hearing impairment are also regularly delayed through the production of other-initiations of repair. Here, however, the roles are reversed compared to what we have seen in the case of dysarthria and agrammatism in that in this case it is the PWCI who commonly produces the other-initiations of repair, treating some aspect of the turn of the typical participant as a trouble source. Open-class initiations of repair appear to be the most frequent form of repair initiation by people with hearing loss (Ekberg, Hickson & Grenness, 2017; Pajo, 2013), and more than one OIR can sometimes be needed to resolve the problem (Pajo, 2013). It has been noted that other-initiations of repair can sometimes be produced by the hearing-impaired speaker within the turn space of the co-participant who is speaking (Lind, Hickson & Erber,

2006). This pattern is notable since it differs from conversation involving typical speakers where OIR is regularly withheld a little beyond the hearable completion of the prior speaker's turn (Schegloff et al., 1977).

Other-initiations of repair can raise the issue of which participant is responsible for the problematic understanding that the OIR highlights (Robinson, 2016) i.e. is it the producer of the talk that is being treated as the trouble source or is it the co-participant who produced the OIR (due, for example, to their hearing or understanding of the prior talk). These issues have been particularly highlighted in conversations involving a hearing-impaired participant, where it is not uncommon for the hearing-impaired participant to produce a 'apology-based' open class OIR, such as 'sorry?', thus taking responsibility for the breakdown in understanding (Ekberg et al., 2017).

Extract 5 provides an example from a conversation involving a participant with a hearing impairment (A) and his wife (B).

Extract 5 (from Lind et al., 2006, layout of transcript changed slightly)

01		B:	the only (0.4) only problem if they came in
02			afterwards would be
03			(1.1)
04	→	A:	(/m kə/) you're dropping again darling
05		B:	the only problem would be if they came in afterwards
06		A:	yeah
07		B:	whether or not =
08		A:	=((*throat clears*))
09		B:	= u:m /jə/ know we have to ask (0.4)
10			Angela to feed the cat (0.9) but for a short time =
11	→	A:	= sorry I'm
12		B:	we have to ask Angela to feed the cat↑
13			(3.0)
14		A:	((*sigh*)) so- right I've got you =

In line 04, A produces an OIR. This repair initiation is notable both in that it occurs before B has completed her turn (lines 01-02) and also because of its form ('you're dropping again darling'). The repair initiation does not locate a particular word or words within the turn as a trouble source, but it does appear to highlight some global feature of the utterance as problematic - i.e. that it is not produced loudly enough for A to hear it – and therefore to also attribute at least some responsibility (Robinson, 2006) for the problematic hearability of the utterance to a particular participant i.e. B. As B produces a re-doing of the problematic utterance A at first appears to be indicating he is hearing it adequately (i.e. the 'yeah' in line 06) but as B continues to talk, A once again produces an OIR in the form of 'sorry' (line 11), here apparently taking responsibility himself for the problem (Ekberg et al., 2017). Following this open-class repair initiation, B re-does her prior turn and this time (after a long silence) A indicates that he has heard and understood what B has said.

3. Atypical actions

In the case of the communicative impairments discussed in the previous two sections it was evident that, in terms of the PWCI's talk, in each case the impairment impacted upon the talk in terms of *how the TCU/turn was produced* i.e. its progressivity, linguistic design or phonetic realisation[7]. For people with cognitive disorders, such as those associated with dementia, autism and traumatic brain injury among others, the communicative impairments impact on talk in a different way. For participants with these disorders, the atypicality of their talk is regularly not at the level of how their turns-at-talk are produced, but rather at the level of *the social actions that are hearably performed by means of their turns-at-talk*. This can be a major part of the 'pragmatic impairment' that such speakers are often described as having and which impacts on how they *use* their communicative resources (rather than those communicative resources themselves necessarily being impaired). The actions produced by people with cognitive disorders are regularly inapposite or inappropriate in some manner, or are in some other way problematic in terms of their recipient-design (Pillet-Shore, 2017) for the PWCI's particular co-participants at that point in the interaction. The inappositeness may be linked to the sequential/topical position of the utterance and its apparent function there, including initiating or developing a topic (Button & Casey, 1984).

For example, a feature of the preference for recipient design (Pillet-Shore, 2017) is a constraint on telling which can be formulated as: 'speakers should not tell recipients as news what they suppose (or ought to suppose) the recipient already knows' (Schegloff, 2007: 38, italics in original removed). However, the talk of participants with cognitive impairments regularly may not adhere to this constraint. For example, it has been noted that participants with traumatic brain injury who display what is often termed 'perseveration' (or 'topic perseveration') may produce information for recipients that they have already provided for them (Frankel & Penn, 2007).

Relatedly, participants with cognitive impairments may ask recipients for information which they have already been given (in some cases by the recipient they are currently addressing) or which they might (particularly if they were a typical participant) be expected to know[8]. An example can be seen in Extract 6 (from Jones, 2015). Here, May, a 72-year-old woman with Alzheimer's disease, a form of dementia, is calling on the phone from her residential/care home to her daughter Natalie.

Extract 6 (from Jones, 2015)

```
01      May:    when am I coming home.
02      Nat:    .hh(.) wul you're not coming home any time soon
03              mother 'cause that's that's where you're living
04              just now.
05      May:    oh bloody hell. I keep forgetting tha:t I know
```

May's question in line 01 about coming home is one that, with various forms of wording, she asks her family members regularly. On each occasion May is informed that she is not coming

back to her own house as she is now living in a residential/care home. However, due to the memory problems associated with Alzheimer's disease, May regularly forgets this. As Jones (2015) observes, the design of May's question can (as seen in line 01) display an assumption that she is coming home, with the issue being when. In response, Natalie provides an answer to the question (not any time soon), and then an account (cause that's where you're living just now) that addresses May's assumption. Natalie's account acts as a reminder to May of her circumstances, and May then acknowledges (line 05) that this was information she had indeed 'had' (in some sense) before, but that she keeps forgetting.

On some occasions the PWCI's action or series of actions may be challenged or complained about by recipients. See, for example, Extract 7, which is from an analysis by Radford & Tarplee (2000) of a 10-year-old boy ('David') who the authors describe as having a pragmatic language impairment. In this extract he is in conversation with fellow school pupils Thomas and Adam.

Extract 7 (from Radford & Tarplee, 2000)

01	David:	who was your first teacher here
02	Thom:	Mrs Healey
03	David:	Mrs Healey in reception
04	Thom:	yeah
05	David:	and then who
06	Thom:	we've just gone through all the teachers David
07	Adam:	yes David
08	David:	I just want to go through it again

In their analysis, Radford & Tarplee (2000) show how David's attempts to initiate and develop topics with his peers regularly rely on questions, with these questions often either generating limited topical material from his co-participants or being explicitly challenged in some way. In Extract 7, for instance, David's manner of developing the topic - through a series of questions about the pupils' teachers - is here challenged by Thomas in the form of a complaint that they have 'just gone through all the teachers' (line 06), a complaint that Adam endorses (line 07). Radford & Tarplee (2000) show that in general David's questions do not appear to display a good awareness of what his co-participants might consider it interesting and relevant to talk about. This, along with his limited ability to topicalise any material that a co-participant might provide in response to his elicitations means that the development of these topics is often limited.

We are now in a position to note a feature of conversations involving a participant with a cognitive impairment. In interaction between typical speakers there is an assumption (by the participants, as well as by analysts of interaction) that actions produced by a participant are 'the product of procedures or methods which are *socially shared and used'* (Heritage, 1987: 266, my italics) and which 'will inevitably inform the design and production of action as well as its interpretation' (ibid.). This is a basic insight of Garfinkel's ethnomethodological investigations of social action (Garfinkel, 1967) and one which has been built on by subsequent work within conversation analysis (Heritage, 1984). The assumption is, however based on the supposition that 'the normative conventions as applicable to a situation of action

are cognitively available to all concerned' (Heritage, 1987: 245) and on 'the actor's capacity to adopt a reflexive and, on occasion, a calculative orientation to normative conventions' (ibid.). In interactions involving people with cognitive impairments, however, this assumption of a common set of methods and background presuppositions which are shared by the participants and inform the production and interpretation of social action can be thrown into doubt, at least on some occasions, by the nature of the PWCI's talk and conduct and by their responses to co-participants' talk and conduct.

In cases where the cognitive impairments are more severe, this can result in interaction where the usual sense of a shared reality and an intersubjective social world shared in common by the participants (Heritage, 1984) may be significantly challenged. This can be the case, for instance, in interactions between, a typical participant and a participant with dementia who confabulates (Lindholm, 2015) or a participant with schizophrenia who displays delusional talk (Palmer, 2000). In such situations there may be a dilemma for the co-participant as regards how to respond to this type of talk (Lindholm, 2015).

Somewhat similar issues are present in Wootton's (1999) description of Kevin, an 11-year-old boy with autism who engages in delayed echoing (i.e. produces echoes that appear to have their basis not in some recent talk or event in the current interaction but in some previous occasion). Kevin's echoes appear non-communicative in that, for example, they display no sense of fittedness to the co-participant's talk which has just been produced. In turn, the co-participant may orient to this sense of the echoes as non-communicative by disattending them.

Forms of adapted talk and other conduct produced by the PWCI and/or their co-participants

So far, I have discussed atypicality primarily in terms of how the turns-at-talk by the PWCI's talk may display atypical features of fluency, linguistic design or phonetic realisation, or how the social actions of the PWCI may be hearable as not being produced with the type of orientation to the common set of methods and background presuppositions that might be expected to be displayed by typical participants. These atypical forms of turns and actions were viewed as being the (relatively) direct result of one or more impairments (for example, the physical impairments to the motor speech apparatus resulting in the phonetically distorted talk of the person with dysarthria).

Research on interactions involving a participant with a communicative impairment has also, however, highlighted features of talk and other conduct by the PWCI or co-participants which are atypical but which do not appear to be a direct manifestation of, or consequence of, the impairment; rather, they would seem to be the result of one or more participants adopting an adapted form of talk or conduct in order to deal with the possible impact of the impairment on the interaction. The atypicality can take the form of a notable over-reliance on typical practices of interaction or the use of certain social actions or interactional practices which differ from those used by typical participants in comparable environments[9].

Adaptation can often be a 'mutual phenomenon' (Heeschen & Schegloff, 2003: 268) in that when one participant engages in it, it has a knock-on effect to the talk/conduct of another participant. For example, Heeschen & Schegloff (1999, 2003) argued that 'telegraphic speech'[10] in speakers with aphasia could be viewed not so much as a direct result of a linguistic impairment, but rather as a form of adaptation by the aphasic speaker, with its use prompting a co-participant to themselves adapt their style of talking, in the form of

articulating what they believe the aphasic speaker wanted to say. Mutual adaptation has also been described in dysarthric conversation. Extract 8 is from a conversation between John, a man with severe dysarthria (and other severe limitations of body movement) linked to motor neurone disease, and his mother Sheila (Bloch, 2005). Here John is attempting to tell Sheila that one of the catering staff (Sarah) in the nursing home where he is based is also a dietician.

Extract 8 (from Bloch, 2005; transcription slightly adapted)

```
01      John:   (she is)
02              (1.2)
03      John:   (she is)
04              (0.3)
05      Sheil:  she is
06              (0.7)
07      John:   a
08              (0.2)
09      Sheil:  a
10              (0.5)
11      John:   dee eye
12              (0.6)
13      Sheil:  dee eye
14              (0.5)
15      John:   ee
16              (0.6)
17      Sheil:  ee
18              (0.3)
19      John:   (tee)
20              (1.2)
21      Sheil:  dee eye ee:
22              (0.3)
23      John:   (tee)
24              (0.4)
25      Sheil:  see?
26              (0.6)
27      John:   tuh
28              (0.2)
29      Sheil:  tee=
30      John:   =((blinks & moves lower left lip down))=
31      Sheil:  =a diet=
32      John:   =((moves lower left lip down & lips forward))=
```

33 Sheil: =dietician?=

34 John: =((*blinks & moves lower left lip down*))

35 Sheil: what Sarah is?

This is clearly not the manner in which John and Sheila would have talked together before John became dysarthric. Rather, each has adapted their way of talking as a response to John's severe dysarthria. The result is a distinctive form of turn co-construction whereby John's production of an item of talk (e.g. a word or one or two letters/phonemes) makes relevant on its completion a display from Sheila of what she has perceived of his speech (typically in the form of a repeat). This form of interaction allows for each participant to display to the other their intersubjective understanding of what has been said and ascertained. If Sheila's grasp (as displayed in her repeat) of what John has said is correct, John will continue on to the next item (e.g. lines 03-07); if it is incorrect John can display this by returning to the item that has proved problematic and producing it again, perhaps in a different form, for example as a phoneme rather than a letter (lines 23-27). John also appears to have adapted his use of blinking and lip lowering to fulfil particular interactional functions, such as confirming that his co-participant has understood what he was attempting to convey (lines 30 and 34). For her part, by withholding a repeat Sheila displays that she is unsure of what John has just said, typically prompting him to produce the problematic item again (lines 01-03).

In other cases, adaptation can be seen to be something primarily engaged in by one of the participants. For instance, some studies have highlighted how speakers with anomia may adapt the manner in which they produce their turns through the use of certain forms of vocabulary, such as semantically weak forms such as 'thing', and/or certain grammatical constructions, such as left dislocation (Wilkinson, Beeke & Maxim, 2003; Barnes, 2013)[11].

An apparent feature of adapted talk produced by one or more participants is that it can lead to less repair compared to the participants attempting to talk in the unadapted style of typical speakers. For example, if Extract 8 is compared with Extract 4, it can be seen that the severity of John's dysarthria means that if he continually attempted to produce forms of TCUs that were canonical (Heeschen & Schegloff, 1999), it is highly likely that Sheila would have difficulty in understanding his severely distorted speech and would regularly be producing other-initiations of repair in an attempt to make sense of it[12]. Similarly, the adapted forms of turn design of speakers with anomia described by Wilkinson et al. (2003) and Barnes (2009) appear to have the effect of lessening the type of self-initiated repair activity (and therefore delayed TCU progressivity) seen when adapted forms of talk are not used (see Extract 1). Less repair can also mean fewer instances of 'accountings' i.e. practices involved in 'addressing lapses in competence and/or conduct' (Jefferson, 1987: 88) which can accompany repair activity[13].

On other occasions it can primarily be a co-participant of the PWCI who is displaying adapted talk or other conduct. Co-participants can adapt how their talk or conduct towards the CPWI such that they can attempt to, in some sense, compensate for the PWCI's limitations. For example, Skelt (2010) has shown that experienced co-participants of people with hearing impairment may solicit the gaze of the person with hearing impairment before speaking, and may time their talk to coincide with the availability of the person with hearing impairment's gaze. This can increase the visual information about the speaker and their talk that is available to the hearing-impaired person and can assist them in making sense of that talk. Another feature of co-participant talk which has been noted across several different forms of

atypical interaction, such as in conversations involving people with learning disability (Antaki, 2013) or dementia (Joaquin, 2010) is the use of known-answer questions (Schegloff, 2007) whose regular use in the case of typical speakers is usually restricted to specialised contexts, such as classrooms or interactions between adults and young children.

Conclusion and some future directions

As is evident from the overview presented here, the application of CA within the field of communication disorders has made a significant contribution to our knowledge of how different disorders and impairments manifest themselves within, and impact upon, social interaction in general and conversation in particular. There are, however, notable differences in regard to the amount of research that has been carried out on different disorders and impairments. For example, acquired neurogenic disorders (such as aphasia, dementia and acquired dysarthria) have, on the whole, received substantially more attention than developmental language and communication disorders, particularly as they present in children (with the exception of autism/developmental pragmatic impairments). A practical consequence of this imbalance is that intervention programmes which have been developed on the back of CA work on communication disorders have thus far focused predominantly on acquired disorders, especially aphasia (Wilkinson, 2014). Research into developmental disorders is, therefore, a priority for future work.

In what other directions may this field develop? Space limitations prevent an in-depth answer to this question, but one possible direction for future work is the following.

Atypical interaction provides an opportunity to explore the interface between talk and conduct within social interaction and the bodily structures and processes that are involved in its production and reception by participants (see Schegloff, 2003). This makes atypical interaction relevant to those with an interest in this interface i.e. social interaction and the neural, cognitive, motor and sensory structures and processes that are necessary for it to occur in the typical ways it does. By allowing for the analysis of how an impairment to these structures and processes impacts on interaction it becomes possible to begin to explore the role they play in the production and reception of typical talk and other conduct.

Acknowledgements

My research into, and considerations on, atypical interaction have been significantly assisted by a Research Fellowship Award from the UK Economic and Social Research Council (RES-063-27-0144: ‘Reconsidering aphasia and other communication disorders using an interactional approach’) between 2008 and 2011. An earlier version of some of the themes discussed here were presented at the University of Freiburg, Germany, in July 2012.

References

Abbeduto, L. & Rosenberg, S. (1980). The communicative competence of mildly retarded adults. *Applied Psycholinguistics,* 1; 4; 405-426.

Acton, C. (2004). A conversation analytic perspective on stammering: Some reflections and observations. *Stammering Research* 1; 3; 249-70.

Antaki, C. (2013). Recipient-side test questions. *Discourse Studies* 15; 1; 3-18.

Antaki, C. & Wilkinson, R. (2013) Conversation analysis and the study of atypical populations. In: J. Sidnell & T. Stivers (Eds.) *Handbook of Conversation Analysis.* Oxford: Blackwell-Wiley. (Pp. 533-550).

Auer, P. & Bauer, A. (2011). Multimodality in aphasic conversation: Why gestures sometimes do not help. *Journal of Interactional Research in Communication Disorders*, 2; 2; 215-243.

Barnes, S. (2013). Proper noun anomia in conversation: A description of how a man with chronic anomia constructed referencing turns. *Aphasiology*, 27; 1; 1-19.

Beeke, S., Wilkinson, R. & Maxim, J. (2007) Grammar without sentence structure: A conversation analytic investigation of agrammatism. *Aphasiology* 21; 3/4; 256-282.

Bloch, S. (2005). Co-constructing meaning in dysarthria: word and letter repetition in the construction of turns. In: K. Richards, & P. Seedhouse (Eds.) *Applying Conversation Analysis* Basingstoke: Palgrave Macmillan. (Pp. 38–55).

Bloch, S. & Beeke, S. (2008). Co-constructed talk in the conversations of people with dysarthria and aphasia. *Clinical Linguistics & Phonetics*, 22; 12; 974-990.

Bloch, S. & Wilkinson, R. (2009) Acquired dysarthria in conversation: Identifying sources of understanding problems. *International Journal of Language and Communication Disorders* 44; 5; 769-783.

Button, G. & Casey, N. (1984). Generating topic: the use of topic initial elicitors. In: J.M. Atkinson & J.C. Heritage (Eds.) *Structures of Social Action: Studies in Conversation Analysis.* Cambridge: Cambridge University Press. (Pp. 167-190).

Drew, P. (1997) 'Open' class repair initiators in response to sequential sources of trouble in conversation. *Journal of Pragmatics* 28: 69–101.

Drew, P. & Heritage, J. (1992). Analyzing talk at work: an introduction. In: P. Drew & J. Heritage (Eds.) *Talk at Work: Interaction in Institutional Settings.* Cambridge: Cambridge University Press. (Pp. 3-65)

Ekberg, K., Hickson, L., & Grenness, C. (2017). Conversation breakdowns in the audiology clinic: The importance of mutual gaze. *International Journal of Language and Communication Disorders* 52; 3; 346-355

Egbert, M. & Deppermann, A. (Eds.). (2012). *Hearing Aids Communication: Integrating Social Interaction, Audiology and User Centered Design to Improve Communication with Hearing Loss and Hearing Technologies*. Mannheim: Verlag für Gesprächsforschung.

Engelke, C. R., & Higginbotham, D. J. (2013). Looking to speak: On the temporality of misalignment in interaction involving an augmented communicator using eye-gaze technology. *Journal of Interactional Research in Communication Disorders*, 4; 1; 95-122.

Frankel, T., & Penn, C. (2007). Perseveration and conversation in TBI: Response to pharmacological intervention. *Aphasiology*, 21; 10/11; 1039-1078.

Garcia, A. C. (2012). Medical problems where talk is the problem: Current trends in conversation analytic research on aphasia, autism spectrum disorder, intellectual disability, and Alzheimer's. *Sociology Compass*, 6; 4; 351-364.

Garfinkel, H. (1967). *Studies in Ethnomethodology.* Englewood Cliffs, NJ: Prentice Hall.

Goodwin, C. (1995). Co-constructing meaning in conversations with an aphasic man. *Research on Language and Social Interaction* 28, 233-260

Goodwin, C. (Ed.) (2003) *Conversation and Brain Damage*. New York: Oxford University Press.

Griffiths, S., Barnes, R., Britten, N. & Wilkinson, R. (2015) Multiple repair sequences in everyday conversations involving people with Parkinson's Disease *International Journal of Language and Communication Disorders* 50; 6; 814-829

Hamilton, H. (1994) *Conversations with an Alzheimer's patient: An Interactional Sociolinguistic Study*. Cambridge: Cambridge University Press.

Heeschen, C. & Schegloff, E.A. (1999). Agrammatism, adaptation theory, conversation analysis: on the role of so-called telegraphic style in talk-in-interaction. *Aphasiology,* 13; 4/5; 365-406.

Heeschen, C. & Schegloff, E.A. (2003). Aphasic agrammatism as interactional artifact and achievement. In C. Goodwin (Ed.) *Conversation and Brain Damage* New York: Oxford University Press (Pp. 231-282).

Helasvuo, M-J, Laakso, M. & Sorjonen, M-L., (2004) Searching for words: Syntactic and sequential construction of word search in conversations of Finnish speakers with aphasia. *Research on Language and Social Interaction* 37, 1, 1-37.

Heritage, J. (1984). *Garfinkel and Ethnomethdology.* Cambridge: Polity Press.

Heritage, J. (1987). Ethnomethodology. In: A. Giddens & J. Turner (Eds.) *Social Theory Today*. Stanford, CA: Stanford University Press. *(*Pp. 224-272).

Hesketh, A. & Sage, K. (Eds.) (1999) Conversation Analysis and Aphasia. Special Issue of *Aphasiology* 13, 4-5

Jefferson, G. (1987). On exposed and embedded correction in conversation. In: G. Button & J.R.E. Lee (Eds.) *Talk and Social Organization*. Clevedon: Multilingual Matters. (Pp. 86-100).

Joaquin, A.D.L. (2010) Frontotemporal dementia, sociality, and identity: Comparing adult-child and caregiver-frontotemporal dementia interactions. *Discourse Studies* 12, 443-464.

Kent, R. D. (2004). *The MIT Encyclopedia of Communication Disorders*. Cambridge, Massachusetts: MIT Press.

Klippi, A. (2015). Pointing as an embodied practice in aphasic interaction. *Aphasiology*, 29; 3; 337-354.

Laakso, M., & Godt, S. (2016). Recipient participation in conversations involving participants with fluent or non-fluent aphasia. *Clinical Linguistics and Phonetics*, 30; 10; 770-789.

Lerner, G. (1991). On the syntax of sentences-in-progress. *Language in Society, 20*, 441-458.

Levinson, S. C. (2013). Action formation and ascription. In: J. Sidnell & T. Stivers (Eds.) *Handbook of Conversation Analysis.* Oxford: Blackwell-Wiley (Pp. 103-130).

Lind, C., Hickson, L. & Erber, N. (2006). Conversation repair and adult cochlear implantation: A qualitative case study. *Cochlear Implants International* 7; 33–48.

Lindholm, C. (2015). Parallel realities: The interactional management of confabulation in dementia care encounters. *Research on Language and Social Interaction*, 48; 2; 176-199.

Local, J., & Wootton, T. (1995). Interactional and phonetic aspects of immediate echolalia in autism: A case study. *Clinical Linguistics & Phonetics*, *9*; 2; 155-184.

Lubinski, R., Duchan, D. & Weitzner-Lin, B. (1980). Analysis of breakdowns and repairs in adult aphasic conversation. In: R. Brookshire (Ed.) *Clinical Aphasiology Conference Proceedings.* Minneapolis: BRK Publishers. (Pp. 111-116)

Mates, A., Mikesell, L. & Smith, M. S. (Eds.) (2010) *Language, Interaction and Frontotemporal Dementia: Reverse Engineering the Social Mind.* Sheffield: Equinox.

McCleary, L. & de Arantes Leite, T. (2013) Turn-taking in Brazilian sign language: evidence from overlap. *Journal of Interactional Research in Communication Disorders*, 4; 1; 123-154

McIlvenny, P. (1995) Seeing conversations: Analyzing sign language talk. In P. ten Have & G. Psathas (Eds.) *Situated Order: Studies in the Social Organization of Talk and Embodied Activities*. Washington, DC: University Press of America (Pp. 129–150).

Morris, S. (2015) *A Conversation Analytic Perspective of Institutional Telephone Calls Involving People who Stammer*. Unpublished dissertation: University of Sheffield, UK.

Oelschlaeger M.L. and Damico, J.S. (2000). Partnership in conversation: A study of word search strategies. *Journal of Communication Disorders* 33, 205-225.

Pajo, K. (2013). The occurrence of 'what', 'where', 'what house' and other repair initiations in the home environment of hearing-impaired individuals. *International Journal of Language and Communication Disorders* 48; 1; 66-77.

Palmer, D. (2000). Identifying delusional discourse: Issues of rationality, reality and power. *Sociology of Health and Illness*, 22; 5; 661-678.

Pillet-Shore, D. (2017). Preference organization. In: J. Nussbaum (Ed.), Oxford Research Encyclopedia of Communication (online version). Oxford, England: Oxford University Press

Plejert, C., Lindholm, C., & Schrauf, R. W. (Eds.) (2017). *Multilingual Interaction and Dementia*. Bristol: Multilingual Matters.

Pomerantz, A. & Heritage, J. (2013). Preference. In: J. Sidnell & T. Stivers (Eds.) *Handbook of Conversation Analysis.* Oxford: Blackwell-Wiley. (Pp. 210-228).

Price-Williams, D. & Sabsay, S. (1979). Communicative competence among severely retarded persons. *Semiotica* 26; 1-2; 35-64.

Radford, J. (2009). Word searches: On the use of verbal and non-verbal resources during classroom talk. *Clinical Linguistics and Phonetics*, *23*; 8; 598-610.

Radford, J. & Tarplee, C. (2000) The management of conversational topic by a ten year old with pragmatic difficulties. *Clinical Linguistics and Phonetics* 14; 5; 387-403.

Robinson, J. D. (2006) Managing trouble responsibility and relationships during conversational repair, *Communication Monographs* 73: 2; 137-161

Robinson, J. D. (2016) Accountability in social interaction. In: J. D. Robinson (Ed.) *Accountability in Social Interaction.* (Pp. 1-44). New York: Oxford University Press.

Rutter, B. (2009) Repair sequences in dysarthric conversational speech: A study in interactional phonetics. *Clinical Linguistics and Phonetics* 23; 12; 887–900.

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

Schegloff, E.A. (1979). The relevance of repair to syntax-for-conversation. In T. Givon (Ed.) *Syntax and Semantics 12: Discourse and Syntax.* New York: Academic Press (Pp. 261-288).

Schegloff, E.A. (1992). Repair after next turn: The last structurally provided defense of intersubjectivity in conversation. *American Journal of Sociology* 97, 1295-1345.

Schegloff, E. A. (2006). Interaction: The infrastructure for social institutions, the natural ecological niche for language, and the arena in which culture is enacted. In: N. J. Enfield & S. C. Levinson (Eds.) *Roots of Human Sociality: Culture, Cognition and Interaction*. London: Berg (Pp. 70-96).

Schegloff, E.A. (2007) *Sequence Organization in Interaction*. Cambridge: Cambridge University Press.

Schegloff, E. A. (2013). Ten operations in self-initiated, same-turn repair. In: M. Hayashi, G. Raymond & J. Sidnell (Eds.) *Conversational Repair and Human Understanding.* Cambridge: Cambridge University Press. (Pp. 41-70)

Schegloff, E.A., Jefferson, G. & Sacks, H. (1977). The preference for self-correction in the organization of repair for conversation. *Language 53*, 361-382.

Schienberg, S. & Holland, A. (1980) Conversational turn taking in Wernicke's aphasia. In: R. Brookshire (Ed.) *Clinical Aphasiology Conference Proceedings.* Minneapolis: BRK Publishers (Pp. 106-110).

Searle, J.R. (1969). *Speech Acts.* Cambridge: Cambridge University Press.

Sidnell, J. & Stivers, T. (Eds.). (2013). *The Handbook of Conversation Analysis*. Oxford: Wiley-Blackwell.

Skelt, L. (2010): 'Are you looking at me?': The influence of gaze on frequent conversation partners' management of interaction with adults with acquired hearing impairment. *Seminars in Hearing* 31; 2; 116-216.

Tetnowski, J.A. & Damico, J.S. (2001). A demonstration of the advantages of qualitative methodologies in stuttering research. *Journal of Fluency Disorders* 26, 1-26.

Wilkinson, R. (1995). Aphasia: conversation analysis of a non-fluent aphasic person. In: M. Perkins & S. Howard (Eds.) *Case Studies in Clinical Linguistics*. London: Whurr. (Pp. 271-292)

Wilkinson, R. (1999) Sequentiality as a problem and a resource for intersubjectivity in aphasic conversation: Analysis and implications for therapy. *Aphasiology* 13; 4/5; 327-343

Wilkinson, R**.** (2008) Conversation analysis and communication disorders. In: M. J. Ball, M. Perkins, N. Müller & S. Howard (Eds.) *The Handbook of Clinical Linguistics*. Oxford: Blackwell. (Pp. 92-106)

Wilkinson, R. (Ed.) (2013a) Conversation analytic investigations of dysarthria and hearing impairment. Special Issue of *Journal of Interactional Research in Communication Disorders,* 4; 1

Wilkinson, R. (2013b). Conversation analytic investigations of dysarthria and hearing impairment: The impact of motor and sensory impairments in social interaction. *Journal of Interactional Research in Communication Disorders* 4; 1; 1-26

Wilkinson, R. (2013c) Conversation analysis and communication disorders, In: C.A. Chapelle (Ed.) *The Encyclopedia of Applied Linguistics*. Malden, MA: Wiley-Blackwell. (Pp. 962-967)

Wilkinson, R. (2014) Intervening with Conversation Analysis in speech and language therapy: Improving aphasic conversation. *Research on Language and Social Interaction* 47; 3; 219-238

Wilkinson, R. (Ed.) (2015) Conversation and aphasia: Advances in analysis and intervention. Special Issue of *Aphasiology.* 29; 3

Wilkinson, R., Beeke, S. & 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: C. Goodwin (Ed.) *Conversation and Brain Damage.* New York: Oxford University Press (Pp. 59-89)

Wilkinson, R., Beeke, S. & Maxim, J. (2010) Formulating actions and events with limited linguistic resources: Enactment and iconicity in agrammatic aphasic talk. *Research on Language and Social Interaction*, 43; 1; 57-84.

Wilkinson, R., Bloch, S. & Clarke, M. (2011) On the use of graphic resources in interaction by people with communication disorders. In: J. Streeck, C. Goodwin & C. LeBaron (Eds.) *Embodied Interaction: Language and Body in the Material World*. Cambridge: Cambridge University Press. (Pp. 152-168)

Wilkinson, R., Gower, M., Beeke, S. & Maxim, J. (2007) Adapting to conversation as a language-impaired speaker: Changes in aphasic turn construction over time. *Communication and Medicine* 4; 1; 79-97.

Wilkinson, S., & Kitzinger, C. (2006). Surprise as an interactional achievement: Reaction tokens in conversation. *Social Psychology Quarterly*, 69; 2; 150-182.

Wootton, A. J. (1999). An investigation of delayed echoing in a child with autism. *First Language* 19; 57; 359-381.

Yearley, S. & Brewer, J.D. (1989) Stigma and conversational competence: A conversation analytic study of the mentally handicapped. *Human Studies* 12, 97-117.

---

[1] While it is analytically useful to separate out disorders in this way, 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 which was present prior to the stroke.

[2]In the case of aphasia, for example, types include Broca's aphasia, Wernicke's aphasia, anomic aphasia and global aphasia, each of which (at least in their 'pure' forms) differ significantly from the others in their patterns of linguistic impairments. Impairments such as anomia (difficulty accessing lexical items) can occur across different types of aphasia.

[3] For conversation analytic research on preference, see Pomerantz & Heritage (2013).

[4] Compared to aphasia. there is far less research on problems with lexical retrieval in children with developmental language impairments. Radford's (2009) study provides examples of the ways in which lexical retrieval problems in this population can delay the progressivity of TCUs.

[5] There is not space here to discuss repair initiated in third and fourth position, but for discussion of examples where a person with aphasia's talk is the source of a misunderstanding, as highlighted by repair initiated in third or fourth position, see Wilkinson (1999).

[6] A similar sequential configuration can be seen in other types of 'non-fluent' aphasia (Kent, 2004) such as that evident in Chil, a man with aphasia whose conversations a were examined by Goodwin across a number of studies (e.g. Goodwin, 1995). Chil's non-fluent aphasia was of a more severe kind that the agrammatic form seen in Example 3, with his lexical resources limited to three words (*yes*, *no* and *and*). A common sequence pattern in these conversations was that following Chil's turn, a co-participant would produce a guess/understanding check of what they thought Chil was trying to convey in his turn, with Chil then confirming or rejecting that proposed understanding.

[7] Hearing impairment is different in this regard in that in impacts on the conversation in the form of other-initiations of repair.

[8] Drawing on Schegloff's (2007) definition of the constraint on telling, the constraint, or an aspect of the constraint, on requesting information which is not being adhered to in such a situation can be formulated as 'a speaker should not request from a recipient information which that recipient has already provided them with or which otherwise they should be expected to know'. See also Heritage (1984: 250) who states that '..a questioner…proposes through the production of a question to be 'uninformed' about the substance of the question'.

[9] The focus here will be on adaptations which the participants appear to spontaneously develop (i.e. not as the result of teaching or intervention by health professionals). While there is not space for discussion here (but see Wilkinson, 2013b), it can be noted that the use of sign language by people with hearing impairment (McCleary & Leite, 2013), or of high-tech augmentative and alternative communication (AAC) by people with dysarthria (Engelke & Higginbotham, 2013) constitute more formally-implemented adaptive methods of interaction.

[10] 'Telegraphic speech' is a linguistically simplified form of utterance production produced by aphasic speakers with agrammatism in which function words and affixes may be omitted.

[11] Other studies of aphasia have shown how people with aphasia can use gesture as an adaptive resource in interaction (Auer & Bauer, 2011; Klippi, 2015), sometimes combining it with certain forms of talk such as direct reported speech to 'enact' aspects of events rather than relying on verbal description (Wilkinson, Beeke & Maxim, 2010).

[12] It is worth noting in relation to Extract 8 that in the context of what the participants have discussed (including prior to this extract starting) it seems that Sheila's utterance in line 35 is hearable as an expression of 'ritualized disbelief'(Wilkinson & Kitzinger, 2006) rather than a display of problematic understanding (Bloch, 2005).

[13] In many instances of atypical conversation, the regular occurrence of repair and orientations towards inapposite talk/conduct can mean that accountings are also a recurrent feature of the conversations, particularly by the PWCI. See for example Extract 1, line 07 ('tch! what's the word'); Extract 5, line 11 ('sorry'); Extract 6, line 05 ('oh bloody hell. I keep forgetting that I know'); Extract 7, line 08 ('I just want to go through it again')