

Research Article

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Multiple Other-Initiations of Repair in Norwegian Sign Language

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Abstract: Not all other-initiations of repair (OIR) are instantly followed by a functional self-repair that restores the progress of the conversation. Despite previous observations of OIRs generally leading to restored progress after one single-repair initiation, data from a multiperson conversational corpus of Norwegian Sign Language (NTS) show that 68% of 112 individual repair initiations occur in multiple OIR sequences. This article identifies three different trajectories of multiple OIR sequences in the NTS data, which are as follows: (1) a trouble source being targeted by more than one repair initiation, (2) the self-repair becomes a new trouble source, or (3) the repair initiation becomes a new trouble source. The high frequency of multiple OIR sequences provides an opportunity to quantitatively investigate how the various formats of repair initiation are distributed in single- and multiple-OIR sequences, how they occur as first or subsequent, and whether they restore the progress of the conversation or are followed by another repair initiation.

Keywords: conversation analysis, signed languages, cascading troubles, nonminimal repair sequences, extended repair sequences

1 Introduction

Research on other-initiation of repair (OIR), or the practices of dealing with trouble of perception and understanding in communication, has been conducted on various spoken languages since the seminal work of Jefferson (1972) and Schegloff et al. (1977). OIR in signed languages has only been investigated to a limited degree. Among the few studies, we find Dively's work on American Sign Language (ASL; 1998), Manrique's work on Argentine Sign Language (LSA; Manrique and Enfield 2015; Manrique 2016; Manrique et al. 2017), one study of OIR in conversations interpreted between British Sign Language and spoken English (Crawley 2016), and an overview of different formats for OIRs in Norwegian Sign Language (NTS;¹ Skedsmo 2020). OIR in Swiss German Sign Language among deaf and hard of hearing pupils in educational settings is also discussed in Groeber and Pochon-Berger (2014), Girard-Groeber (2014), Girard-Groeber (2015), Girard-Groeber (2018), and Girard-Groeber (2020).

1 "Norsk tegnspråk." Abbreviations referring to signed languages, even if presented in English or other lingua francas, are conventionally based on the name of the language in (one of) the written languages used in the same area. Argentine Sign Language is called LSA (Lengua de Señas Argentina), and Swiss German Sign Language is referred to as DSGS (Deutschschweizer Gebärdensprache). Exceptions are signed languages in areas that do not use the Latin alphabet, like Russian Sign Language, abbreviated RSL.

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Several of the articles in a special issue of *Open Linguistics* on OIR (2015/2016) discuss multiple (“non-minimal”) OIR sequences, and four of them (Baranova 2015; Dingemanse 2015; Rossi 2015; Dingemanse et al. 2016) refer to an article about multiple OIR sequences, which has yet to be published (Enfield, Drew, and Baranova, forthcoming). Multiple OIR sequences have also been discussed within the field of Parkinson’s disease/dysarthria (Bloch and Wilkinson 2004; Bloch and Wilkinson 2009; Bloch and Wilkinson 2011; Griffiths et al. 2015). Lerner and Kitzinger (2012), in their introduction to a special issue on repair in *Research on Language and Social Interaction*, announce that one of several candidates for research projects was the matter of multiple repair sequences, but the research, and hence the special issue, ended up focusing on other matters. This article adds to the body of knowledge as it investigates multiple OIR sequences among adult signers of NTS.

1.1 Research questions

This article has two research questions. The first is how individual OIR occur in sequences of multiple OIR in NTS. Through qualitative analysis of transcribed examples extracted from a multiperson,² interactional NTS corpus, three different types of multiple OIR sequences following different trajectories will be presented and discussed. The other question is how different formats of repair initiation are distributed in different sequential positions of single and multiple OIR sequences, employing categories such as first and subsequent cases (Rossi 2015) and “closing” and “nonclosing” cases.

The following two subsections give a short introduction to NTS and OIR, and Section 2 presents the data and method of the study. Section 3 describes three different trajectories of multiple OIR sequences in the NTS data. Section 4 is about quantitative analyses of how different formats of OIR tend to occur in different sequential positions. Section 5 presents the concluding remarks and some thoughts on possible implications of the findings.

1.2 About signed languages and NTS

NTS is a signed language used by approximately 16,500 people, whereof around 5,000 are deaf (NDF 2019). Deaf children have been taught through NTS in Norway since 1825, but as is the case for most signed languages, both the language and its users have been devalued and suppressed through oralism, mainstreaming, and an untiring belief that vocal speech is what separates man from animal and a superior vehicle of thought (Hjølstad 2017).

It has been known since the 60s that signed languages are full-fledged languages (e.g., Stokoe 1960; Kendon 2008) and that they share grammatical features with other (spoken) languages. However, the two most persistent and conflicting myths about signed languages are still often expressed. One being that signed languages are merely visual/manual versions of their surrounding spoken languages. The other, which obviously contradicts the first, is that there is only one, international sign language. Linguistic research has been conducted on many signed languages (see, e.g., Perniss et al. 2007 for a comparative work). Signed languages make use of both manual signs and nonmanual markers (facial expressions, mouth gestures, and other bodily behavior) to form utterances and perform communicative actions equivalent to spoken languages.

Even though there has been a growing academic interest in NTS, the language is largely unexplored. There are some linguistic works (e.g., Vogt-Svendsen 1981; Vogt-Svendsen 1990; Selvik 2006; Liddell

² This article, following Bolden (2011) and Egbert (1997), uses the term “multiperson” instead of “multiparty,” focusing on the different persons’ contributions to the conversation, rather than parties, potentially consisting of several persons.

et al. 2007; Vogt-Svendsen and Bergman 2007; Erlenkamp 2011a; Erlenkamp 2011b; Schrøder 2011; Ferrara 2017; Ferrara 2019) and a recent introduction to NTS (Vonen 2020). Some work has also been done within language politics and education (e.g., Vogt-Svendsen 1983; Berge and Skaten 2005; Holten and Lønning 2011; Berge and Ytterhus 2015). Interactional research is almost nonexistent, with an exception of the works by Hjulstad (2016, 2017) and research on NTS in the tactile modality (Raanes 2011; Mesch et al. 2015).

At first glance, studying OIR might seem like focusing on flaws and hiccups of communication, but it is rather the opposite. The system of OIR consists of practices for resolving troubles of perception and understanding. It deserves attention, as it represents a crucial part of the interactional competence (Young 2014; Salaberry and Silvia 2019) continuously developed and employed by conversationalists for negotiating mutual understanding. Or as Sidnell (2014) puts it, “the architecture of intersubjectivity is supported by a system of repair” (390).

1.3 Conversational repair

Studies of conversational repair have divided repair practices into categories, depending on who is initiating the repair and who is completing or solving the repair (see, e.g., Albert and de Ruiter 2018 or Schegloff et al. 1977 for an overview). Other-initiations of self-repair refer to practices of announcing that there is a problem with a prior turn of another, and letting the trouble-source utterer repair the utterance themselves by repeating, rephrasing, clarifying, (dis)confirming, specifying, or otherwise redo the utterance in a way that can restore the *progress* of the conversation (Stivers and Robinson 2006). Since Jefferson’s “Side sequences” (1972) and the seminal work of Schegloff, Jefferson and Sacks (1977), a number of different terminologies and abbreviations for the different parts of the OIR system have been suggested. The canonical OIR sequence of a trouble source, a repair initiation, and a self-repair (also referred to as the “repair solution” in the special issue of *Open Linguistics* 2015/2016) is shown in Extract 1.

Extract 1: From Schegloff, Jefferson and Sacks (1977, 367). Original unique identifier: [CD: SP]. (Line numbers to the left, and terminology to the right added.)

1. D:	Wul did’e ever get married r’ anything ?	Trouble-source
2. C: →	Hu:h?	Repair-initiation
3. D:	Did jee ever get married ?	Self-repair
4. C:	I have // no idea	(Restored progressivity)

Repair initiations come in various formats, often ranged from referentially “weak” to “strong” (Schegloff et al. 1977), i.e., by their ability to frame or present the trouble in the trouble-source utterance (Jefferson 1972; Dingemanse et al. 2014). Open-class repair initiations (OCRIs; Drew 1997), like “Huh?” or “What?”, and implicit repair initiations like the freeze-look response found in LSA and NTS (Manrique and Enfield 2015; Manrique 2016; Manrique et al. 2017; Skedsmo 2020) are located in the weak end of the continuum. The freeze look is characterized by the addressee keeping their gaze fixed on the addresser, without moving gaze, body, or changing facial expression. This notable absence of action has been given status as a practice of initiating repair in LSA, when occurring subsequent to a question or other first-pair part, soliciting a response (Manrique and Enfield 2015; Manrique 2016; Manrique et al. 2017). Despite Clift (2016: 267) referring to the freeze-look response as a “particular local practice,” it is found both in NTS and among deaf or hard of hearing pupils using Swiss German Sign Language in educational settings (Girard-Groeber 2020). The practice is also described under the name “freeze display” in spoken multilingual/second-language interaction (Oloff 2018), where it is reported to be regularly employed after (several) other attempts of repair initiation. Oloff’s (2018) multilingual/L2 data are notably different from both the data in this study and those of the special issue of *Open Linguistics* (2015/2016), and it is uncertain how comparable the findings are. Still the observations of freeze

displays as generally subsequent are interesting, as no such sequential ordering has been found in NTS or LSA.

Restricted formats of repair initiation, like requests including content question words (e.g., “who,” “where,” or “when”) and partial repeats of the trouble-source turn are located toward the strong end of the weak–strong continuum. Candidate offer repair initiations (e.g., “You mean X?” or “So X is Y?”) are found in the far strongest, or most restricted end (Schegloff et al. 1977; Manrique and Enfield 2015). The scale of referential strength can be seen as a continuum (Kitzinger 2013; Manrique and Enfield 2015) and defining how strong a repair initiation is can sometimes be difficult. A “Huh?” produced in direct adjacency to the uttering of a word can direct attention to that specific word (Schegloff 2000; Levinson 2015) and a verbatim, unmarked other repeat of a whole trouble-source turn, may not explicitly target any specific part of it (Robinson and Kevoe-Feldman 2010). For this study, different formats and subtypes of repair initiation are treated as more or less strong/restricted, but for the quantitative part an imaginary line is drawn. All repair initiations containing other repeats, content question words, or candidate offers are counted as restricted repair initiations.

Another way of categorizing repair sequences is with regard to what *level* of perception/understanding problem the various formats of repair initiation are addressing. Dingemanse, Blythe and Dirksmeyer (2014) discuss how the Austin/Clark ladder of action (Clark 1996) can be employed to identify different ways an utterance is treated as a trouble source. This four-level taxonomy is based on Austin’s (1962) levels of speech acts and that successful communication is dependent on joint actions of speaker and addressee. At the lowest level, person B’s repair initiation signals trouble *attending* to person A’s utterance. Such trouble could imply that B is not aware of being addressed and is therefore not likely to initiate repair or give any kind of response at all. At the second level, B’s repair initiation is communicating that B realizes that A is signaling something but is having trouble *identifying* the signals A is presenting. These two stages can both be said to be targeting the trouble as being about perception. At the third level, B is announcing trouble *recognizing* what A is signaling, i.e., B does perceive the signals from A but still does not understand what A is using them for (B signals perception but not *understanding* of what A is saying). At the fourth level, B acts as being able to decipher what A is signaling, but not what A is *proposing* (B is expressing trouble understanding *why* A is saying what A is saying; Dingemanse et al. 2014: 8–9). The Austin/Clark ladder adds useful perspectives to the study of OIR sequences, though when applied to real data, it is often difficult or impossible for analysts to decide what kind of trouble the interlocutors have. However, particular *formats* of repair-initiations can claim or demonstrate something about what kind of trouble they address (Dingemanse et al. 2014).

A limited body of research within the field of repair in signed languages indicates that the patterns and preferences of spoken languages generally are applicable (Dively 1998; Enfield et al. 2013; Hayashi et al. 2013; Dingemanse et al. 2015a,b; Floyd et al. 2015; Manrique 2016; Manrique and Enfield 2015; Manrique et al. 2017; Metzger and Bahan 2001; Skedsmo 2020). Based on analyses and retrospection of a video-recorded conversation between herself and two deaf ASL signing students, Dively (1998) identifies examples of the different types of self and OIR, and a preference for self-repair over other-repair consistent with the findings of Schegloff, Jefferson and Sacks (1977). She suggests that ASL has lexical items functioning solely as signals of self-repair, such as the “nohanded signs” (nonmanual expressions) “I-WRONG,” and “TRY-TO-REMEMBER” (167), a claim that invokes the discussion about distinctions between sign and gesture (see, e.g., Marschark 1994; Liddell and Metzger 1998; Goldin-Meadow and Brentari 2017). Dively (1998) describes how ASL repair initiations can be produced with two signs simultaneously, e.g., other repeating a sign in the trouble source with one hand, and signing “WAIT-A-MINUTE” with the other, and that there are some kinds of trouble sources in ASL, caused by where a sign is placed in space, that do not occur in spoken languages.

1.4 Multiple OIR sequences

Even though it has been claimed by both Schegloff (2000) and Kitzinger (2013) that OIR is “very effective at resolving troubles of speaking, hearing and understanding, and [that] intersubjective understanding is

overwhelmingly achieved after a single repair sequence” (Kitzinger 2013, 252), an OIR does not always succeed at first attempt, i.e., through a single OIR sequence as in Extract 1. If not, a multiple repair sequence occurs, as in Extract 2 from Schegloff et al. (1977) showing how the same addressee (D) initiates repair twice, treating the first attempt at self-repair as insufficient or inadequate:

Extract 2: From Schegloff et al. (1977, 369). Original unique identifier: [HS: FN]. (Line numbering added.)

1. A: I have a: – cousin teaches there.
2. D: Where.
3. A: Uh:, Columbia.
4. D: → Columbia ?
5. A: Uh huh.
6. D: → You mean Manhattan ?
7. A: No. Uh big university, Isn't that in Columbia ?
8. D: Oh in Columbia.
9. A: Yeah.

When a subsequent repair initiation targets the same trouble source as the prior repair initiation did, it generally follows the preferences suggested by Schegloff et al. (1977) moving from less restricted to more restricted, “trying the easiest solution first” (Svennevig 2008). The subsequent repair initiation is often referred to as an “upgrade” (Baranova 2015: 86; Dingemanse 2015: 250; Floyd et al. 2015: 194; Manrique and Enfield 2015; Manrique et al. 2017: 86). In cases where the first repair initiation does not lead to a self-repair, the upgrade has the function of a “pursuing of response” (Pomerantz 1985; Bolden et al. 2012). If the repair initiation leads to a self-repair which again is followed by another (upgraded) repair initiation, it can in some cases be rather opaque whether the subsequent repair initiation is retargeting the same trouble source as before or whether it is targeting the prior (failed) self-repair, treating it as inaudible, insufficient, inadequate, or unintelligible and hence constituting a new trouble source. When an other-initiated self-repair becomes targeted as a new trouble source, we have what Lerner and Kitzinger (on self-initiated self-repair) refer to as a “two-step repair” (Lerner and Kitzinger 2007: 536) and later “cascading troubles” (Lerner et al. 2009; Lerner and Kitzinger 2012: 112). Even a repair initiation can become a new trouble source, generating an “embedded” OIR sequence or a “subordinate” sequence, that has to be dealt with before the “embedding” or “superordinate” OIR sequence can go on (Levinson 2015, 389).

Multiple OIR sequences were discussed in the special issue of *Open Linguistics* on OIR (2015/2016), using the terms *cascading*, *extended*, or (predominantly) *nonminimal* repair sequences, and they were identified in several languages (Baranova 2015; Blythe 2015; Dingemanse 2015; Enfield 2015; Floyd 2015; Gisladdottir 2015; Kendrick 2015b; Levinson 2015; Rossi 2015).

In this article, all OIR sequences where more than one repair initiation is employed for restoring progress are referred to as *multiple* OIR sequences, following Schegloff (1992) and Schegloff (2000) and Levinson (2015). The term *nonminimal* OIR sequence is not used, to avoid confusion with the concept *nonminimal postexpansions* (Schegloff 2007; Sidnell and Stivers 2012), which refers to second pair parts (responses) that do more than merely back channeling, as a token of interest, affirmation, etc., but call for more action before the progress can be restored. Any OIR hence qualifies as a *nonminimal postexpansion*. The term “extended” is also avoided, since it seems to indicate that the sequence used to be smaller and then grew larger.

2 Data and method

This study follows the methodological traditions of conversation analysis (CA; Schegloff 1987a; Sacks et al. 1995; Schegloff 2007; Sidnell and Stivers 2012) and employs informal multiperson conversational video recordings of data. The data will be further presented in the following subsection.

2.1 Corpus

The data investigated in this and a previous study of OIR in NTS (Skedsmo 2020) are extracted from a corpus of six recordings, capturing totally 3 h 38 min of informal multiperson conversation. The informants are deaf NTS signing colleagues between 18 and 52 years old. All of them report that they learned NTS in the age of 0–7 years, they have attended schools for the deaf, and they now have their daily work in an NTS environment. Of the 16 informants, 13 have NTS as their preferred language. One prefers another signed language, one prefers spoken Norwegian, and one prefers pidgin signed Norwegian.

The recordings were made in the physical contexts of their own workplaces. The situational contexts are internally commensurable in the way that they are all defined by the informants as “breaks” or “having a chat.” They were informed that the recordings would be used for investigating NTS conversation but not about the special interest in repair. The conversations are “naturalistic” or even “naturally occurring” (Lynch 2002; Speer 2002) as the interlocutors were not given any specific subject for the conversations. No research or technical personnel was in the room during their conversations, and it is quite likely that the conversations would have taken place even if they were not to be recorded. On the other hand, the recordings are also “contrived” (Lynch, 2002; Speer, 2002) as there were appointments negotiated, informed consents gone through and signed, and visible video cameras set up in the room. Four of the conversations in the data set were during lunch breaks (two of these, initiated by me, who also provided the food) and two are recordings of colleagues sitting in an office talking. We can only speculate on how the cameras and the awareness of being video recorded for scientific purposes possibly influenced the different informants from moment to moment during the recordings (Speer and Hutchby 2003).

All the recordings were made with two digital video cameras mounted on stands. The cameras were set up and switched on and then left in the room with the informants. There are between three and six informants in each recorded conversation. In total, the recordings show 11 male and 5 female signers. There are notable variations between the individual informants’ contributions to the conversations, in terms of numbers of utterances, frequencies of repair initiations, and general styles of communication. Five of the informants appear in two recordings, and their level of participation also varies between the different extracts. The number of repair initiations by each informant within one extract varies from 0 to 15. The number of utterances with trouble sources varies by the same numbers. One 10-min segment was extracted from each of the six different recordings to reduce bias from overrepresentation by particular contexts or informants (Dingemanse et al. 2014; Dingemanse and Enfield 2015; Dingemanse et al. 2015a,b; Dingemanse et al. 2016). The first 5–10 min of the recorded conversations were consistently excluded, as the informants were expected to be more distracted by the cameras in the beginning (Heath et al. 2010). The segments were selected simply by beginning to watch the video approximately halfway into it, locating the first repair initiation and then analyzing the next 10 min of the recording. Relevant sequences were annotated in ELAN³ (Sloetjes and Wittenburg 2008). The number of repair initiations in the six different extracts varies from 9 to 30, with an average of 19.

All informants have given their informed consent that extracts from the video recordings and stills retrieved from them can be published and presented in publications and in presentations. This kind of consent is important for research on and presentation of interaction in signed languages, because anonymizing the videos would dramatically reduce the value of the sampled data, as facial expressions, mouth movements, changes in gaze, etc., would become inaccessible. Still, the names of the informants and the people they mention in their conversations are changed into short pseudonyms, simply following the alphabet around the table from left to right (e.g., Abe, Ben, and Carl or Ann, Bo, and Cora). When informants appear in two recordings, they have the same pseudonym in both and then the alphabetical order is not upheld.

³ ELAN (Version 5.9) [Computer software]. (2020). Nijmegen: Max Planck Institute for Psycholinguistics, The Language Archive. Retrieved from <https://archive.mpi.nl/tla/elan>.

2.2 Coding and analysis

The video extracts were initially watched at different speeds numerous times, searching for OIR. The cases found were coded, following the coding scheme suggested by Dingemanse, Kendrick et al. (2016), which was collaboratively developed and used on data from ten different languages investigated and compared (Dingemanse and Enfield 2015) in the special issue of *Open Linguistics* (2015/2016). The scheme was primarily constructed for spoken languages, and I have added several categories, with features adapted to or unique to signed languages. Additional coding categories include details concerning the interlocutors' gaze, whether a manual summon was performed before the repair initiation, like waving a hand, touching an interlocutor, knocking the table, etc. Also, specific information regarding freeze-look responses was coded, like total duration from completion of trouble-source turn until the freeze-look pose is released, until self-repair or upgrade to an explicit repair initiation was started, etc. No coding categories from the original coding scheme were excluded.⁴

Initially, candidate cases were selected generously and then reduced to a selection of core cases. OIR practices are employed in conversation as a vehicle for performing a number of non-OIR actions, like, e.g., expressing surprise or disalignment (Schegloff 1997; Dingemanse and Enfield 2015; Dingemanse et al. 2016), and are recognized as such by the next speaker. The response will then not be a self-repair, targeting a problem of perception or understanding but rather a response targeting the positive or negative stance taken by the other. Such cases were excluded from the selection of core cases. Other cases may, to the analyst, look like they are expressing this kind of positive or negative surprise but are responded to as repair initiations and hence included among the core cases. This principle is the next-turn proof procedure (Sacks, Schegloff and Jefferson 1978) whereby the focus is on what the conversationalists treat the utterances as, instead of what the analyst believes their intentions are. The next-turn proof procedure also excludes "obvious" repair initiations that are not attended to, or those that are cancelled by a display of delayed recognition, through a change-of-state token (e.g., "Oh!;" Heritage 1984; Koivisto 2015) before a self-repair is performed. A probable question-formatted news receipt (Dingemanse 2015) which is responded to as a repair initiation will be included in the core selection but marked as expressing surprise or disbelief in addition to functioning as a repair initiation (Dingemanse and Enfield 2015).

Being a second-language (L2) user of NTS, I arranged with a first-language (L1) consultant to co-analyze a subset of the cases to control for analytical divergence. No disagreements arose concerning the understanding of the OIRs, but the cooperation gave valuable insights into the L1 consultant's intuitive interpretations of facial expressions, changes in gaze and other actions signaling trouble, disaligning, etc.

CA has traditionally been associated with qualitative research (Schegloff 1993), but with the emergence of corpus linguistics and cross-disciplinary collaboration there has been a growth of studies that employ statistical methods and quantification of data emerging from CA (e.g., Floyd et al. 2015; Kendrick 2015a; Manrique 2016; Manrique et al. 2017; Sikveland et al. 2016). In this article, a simple descriptive analysis of the limited NTS data is also provided to indicate counts of repair initiation types and their positions in multiple repair sequences.

2.3 Presenting the data

Video files⁵ showing the tree key extracts investigated and presented here are available as complementary material at OSF by following this link: https://osf.io/9ngbx/?view_only=819675dc8d0744f0aeb402c06c60807d.

⁴ The coding scheme, with the added coding categories, is available as supplemental material, on OSF. https://osf.io/9ngbx/?view_only=819675dc8d0744f0aeb402c06c60807d

⁵ The video files are edited, so that the durations of, e.g., freeze-look responses, accurately measured in ELAN do not necessarily match the ones in the videos. Extract 3 has a small fraction of a second removed, due to the intake of food. You will notice

Assuming that many readers are not accustomed to watching decontextualized video clips in NTS or any other signed language, the data must be presented in a comprehensible, yet precise enough manner that fits the written format of this study. For signed languages, multilinear transcriptions (Hepburn and Bolden 2012), often termed “music-score transcriptions” are frequently used (see, e.g., Napier 2007; Manrique 2016), following the basic structure of CA transcription (Jefferson 2004). Different lines or *tiers* are conventionally used to represent manual signs, nonmanual markers, gaze directions, and other communicative behavior, which are coded as words or symbols along the timeline – as well as translations into English or any other preferred written language. Often, when presenting data from a language other than the language of the publication (e.g., English), a “semi-translated” tier is provided, where the utterances are presented morpheme by morpheme in the language of the publication. This extensive kind of transcription is helpful for detailed scrutiny but is quite space demanding and challenging to read. For the transcriptions in this article, a maximum of three tiers are used; and where no translation is needed, the translation tier is removed, e.g., when there is only a freeze-look response. Conversational contributions only consisting of attentive gaze were also removed from the transcriptions. Each transcription is preceded by a short “summary,” with only the translated tiers. The repair initiations are marked with numbered arrows both in the transcriptions and in the summaries. An overview of the transcription conventions is found at the end of the article. Rather than using complex transcriptions of facial expressions, body movements, etc., this article provides pictures of crucial moments in the conversations.

3 Different trajectories of multiple OIR sequences in NTS

In the NTS data, 76 (68%) of the 112 individual cases of OIR were found in multiple OIR sequences. According to Kitzinger (2013) and Schegloff (2000), multiple OIR sequences are quite rare. We do not know whether the NTS data in this study are especially rich in this phenomenon. The only published statistics on amounts of multiple OIR sequences in other languages to my knowledge was by Blythe (2015), mentioning in a footnote (p. 295) that 50% of his individual cases of OIR in the Australian language Murrinh-Patha occurred in multiple sequences and that Griffiths et al. (2015) report on 29 multiple OIR sequences found in a data set of more than 10 h of dyadic interaction between persons with Parkinson’s disease and conversation partners. (The number of single OIR sequences is not given.) Dingemanse (2020) notes that 84 (42%) of 201 individual cases of OIR in Siwu were found in multiple OIR sequences.

In the following subsections, I will present three different trajectories of multiple OIR sequences with transcribed examples from the NTS data.

3.1 A trouble source being targeted by more than one repair initiation

Let us revisit Extract 2 from Schegloff et al. (1977: 369). The repair initiation in line 4 destabilizes the claim that A’s cousin teaches in or at a place called Columbia. D initiates repair by other repeating the utterance “Columbia” with raised intonation. A’s response (5) is a confirming “Uh huh.” But D continues to treat this as unintelligible or inadequate and pursues (Pomerantz 1985) by upgrading to a candidate offer repair

at 00.06 that Adam (silently) articulates *papir* (“paper”). This could have constituted a second upgrade of the first repair initiation. Barb is, however, looking down at the table and the mouthing has no communicative effect, and this is hence not treated as an utterance in the transcript or the summary. Extract 4 has been edited, so that data from a second camera are inserted to show the front views of all signing participants, replacing a stretch. The durations of the inserted part and the replaced part do not match accurately. Extract 5 contains a short stretch of pixelated video to anonymize a reference to a person to respect their privacy.

initiation in line 6: “You mean Manhattan?” A candidate offer calls for a confirmation or disconfirmation, and this one gets disconfirmed.

The upgrade follows the preferred pattern, which is first described by Schegloff et al. (1977) and later confirmed by numerous studies of many languages (Clark and Schaefer 1987; Dingemanse et al. 2015a,b; Floyd et al. 2015; Manrique and Enfield 2015; Rossi 2015; Manrique 2016; Enfield 2017; Manrique et al. 2017), namely, trying the “easiest” (Svennevig 2008) or the “least complicated and costly remedy” (Pomerantz 1985) first and then, when necessary, upgrading to a more restricted or a referentially stronger format of repair initiation.

In Extract 3, Barb announces that she printed all the papers for the meeting she and Adam are going to attend at 12 o'clock, after lunch, but Adam is displaying trouble with her statement. (Lines that show overlapping behavior are given a common gray background in the transcription to make it easier to see the overlaps across the three tiers.)

Extract 3: Multiple repair-initiations addressing the same trouble-source. [BAGUA4-6].⁶

Summary:

1. Barb: I have printed the papers. They are over there. (Takes bite of food.)
2. Adam: →_{1A} (Freeze-look response 1.8 sec.)
3. →_{1B} Huh?
4. Barb: I wasn't sure, so I printed all the papers for the
5. meeting we have at 12 o'clock.
6. Adam: →_{2A} (nod) (Freeze-look response 1.4 sec.)
7. →_{2B} You bring the pap... papers?
8. Barb: (wipes hands and mouth, then signing slowly, clearly and with mouth shut:)
9. I have [printed out all status reports for the meeting.]
10. Adam: [mhm, mhm, mhm, mhm, mhm, mhm. Oh, yes, I see. Like that!]
11. Barb: I didn't know whether to read on my laptop or paper,
12. so I've got them ready over there.

1. Barb Gaze: Adam-forward-----food-----Adam--
Sign: PRINT OUT PAPER POINT(there) (takes big bite)
Trns: *I have printed the papers. They are over there.*
2. Adam Gaze: Barb-----
→_{1A} Sign: (FL 1.8)
3. Gaze: Barb-----
→_{1B} Sign: (sideways head tilt, lift upper lip and lower eyebrows)
Trns: *Huh?*
4. Barb Gaze: Adam-----
Sign: (chewing) DO-NOT-KNOW PRINT ALL PAPER
Trns: *I wasn't sure, so I printed all the papers for the*
5. Gaze: Adam-----
Sign: MEETING CLOCK 12 WE-TWO (wiping fingers with napkin)
Trns: *meeting we have at 12 o'clock.*
6. Adam Gaze: Barb-----
→_{2A} Sign: (weak nod) (FL 1.4)
Trns:

⁶ Unique identifier, telling which recording the extract is from, and which repair-initiations are included.

7. Gaze: Barb-----
 →₂₈ Sign: YOU BRING PAP* PAPER?
 Trns: *You bring pap... papers?*
8. Barb Gaze: down-----Adam--
 Sign: (wipes mouth, chews) (signing with mouth shut:)
9. Gaze: Adam-----
 Sign: I HAVE PRINT PRINT OUT ALL STATUS REPORT[TO MEETING]
 Trns: *I have printed out all status reports for the meeting*
10. Adam Gaze: Barb -----shut----table-----
 Sign: (Overt nodding with raised eyebrows) [AS YES]
 Trns: *mhm, mhm, mhm, mhm, mhm, mhm. Oh, yes, I see. Like that!*
11. Barb Gaze: Adam-----forward
 Sign: I DO-NOT-KNOW SHALL I READ ON LAPTOP OR PAPER
 Trns: *I didn't know whether to read on my laptop or paper,*

When Barb completed her statement about having printed the papers, she takes a bite of her baguette and leans over the table, gazing at Adam. Adam does a freeze-look response, keeping his gaze steady toward Barb and does not move any part of his body (Figure 1).

The lack of self-repair from Barb is probably related to her being busy eating, but nevertheless Adam upgrades to a nonmanual open repair initiation tilting his head sideways, lowering his eyebrows, and raising his upper lip (line 3 and Figure 2).

Barb's self-repair (4) contains traces of a rationale for having printed the papers ("I wasn't sure, so [...]"). This indicates an openness to the possibility that Adam is announcing trouble of understanding at the highest level of the Austin/Clark ladder, i.e., that Adam did not (only) have trouble understanding what she signed but had trouble sorting out *why* she said it, or even why she did what she claims to have done. Another related way to analyze her self-repair is that she is performing a mixed self-repair, covering both trouble with perception (by doing a full repeat) and trouble with understanding (by adding "for the meeting at 12 o'clock") and also potential acceptability problems (Benjamin and Redeker 2013), by the initial "I wasn't sure, so." The self-repair (4) also includes details that the trouble-source utterance (1) did not,



Figure 1: Adam doing a freeze-look response. (Line 2 in the transcription.)



Figure 2: Upgrade from freeze-look response to nonmanual, open-class repair initiation. (Line 3.)

namely, that the meeting starts at 12 o'clock, which contextualizes her utterance back to before the trouble started. Adam (6) produces a weak nod but goes back to a freeze-look posture for 1.4 s, followed by a new repair initiation of the strongest kind; a candidate offer ("You bring the pap[...] papers?") in line 7. Barb then (8) wipes her mouth and signs with her mouth shut (chewing) but with her manual signing notably slow, clear, and rhythmic, following the syntax of spoken/written Norwegian. This time she even signs *PRINT* twice, which can be understood as approximating the two-syllable Norwegian word *printet* ("printed"). Adam (10) raises his eyebrows and nods repeatedly back to her, confirming comprehension sign by sign (Figure 3).

When Barb reaches "status reports" (9), Adam (10) withdraws his gaze, displaying understanding ("Oh, yes, I see. Like that!") shown in Figure 4.

Adam keeps gazing at the table, moves his wrapping paper away and wipes crumbs off the table. When he turns his gaze back to Barb, she adds "I didn't know whether to read on my laptop or paper, so I've got them ready over there" (11–12).



Figure 3: Slow, clear and rhythmic signing without mouthings (right) with sign-by-sign responsive nodding (left). (Lines 9 and 10.)



Figure 4: Display of understanding (left). (End of line 10.)

When two or more repair initiations in a sequence are produced without any attempt at self-repair in between, subsequent repair initiations will be analyzed as upgrades. If self-repairs are provided, as in Extract 2 line 5 or Extract 3, lines 4–5, it can be ambiguous whether the subsequent repair initiation is retargeting the same trouble source as before, or whether it is targeting the (failed) self-repair as a new trouble source. In Extract 3, we cannot know whether Adam (6) becomes increasingly or decreasingly confused by Barb’s (4) added reason for printing the papers. Other instances are more clearly “cascading,” like the one presented in Extract 4, in Section 3.2.

3.2 The self-repair becomes a new trouble source

Prior to the following segment (Extract 4), the carpenters Ben and Abe have been discussing Ben’s vocational training and how he appreciates the weekly evening classes it includes. The extract starts with Abe asking Ben where the evening classes are taught.

Extract 4: Multiple repair-sequence where a self-repair becomes the next trouble-source. [CARA14-16].

Summary:

- | | |
|-------------------------|---|
| 1. Abe: | Where is the school? |
| 2. Ben: | Over at.. uhm... Sem. |
| 3. Abe: | Mhm |
| 4. Ben: | Close to. It’s Broen number six |
| 5. Abe: | Ah! |
| 6. Ben: | By the camper van hotel |
| 7. Abe: → ₁ | [(Freeze-look 3.7 sec.)] |
| 8. Ben: | [(1.3) Uhm... In Sem.] |
| 9. Abe: | Mhm. |
| 10. Ben: | When you’re on the highway, on your left there’s a huge |
| 11. Abe: → ₂ | The As[kjem-building]? Yes. Yes. |
| 12. Ben: | [Mhm. Askjem
[It is behind] |
| 13. Abe: → ₃ | [So you go under?] Oh, behind. Mhm |

1. Abe Gaze: Ben-----
Sign: WHERE SCHOOL WHERE
Trns: *Where is the school?*
2. Ben Gaze: Abe-down-----Abe
Sign: POINT-there FILLED-PAUSE SEM
Trns: *Over at.. uhm.. Sem.*
3. Abe Gaze: Ben--
Sign: (upward nod)
Trns: *Mhm*
4. Ben Gaze: Abe----- Down-----Abe
Sign: NEXT-TO B-R-O-E-N NUMBER SIX
Trns: *Close to. It's Broen number six.*
5. Abe Gaze: Ben---
Sign: (strong upward nod)
Trns: *Ah!*
6. Ben Gaze: -----
Sign: CLOSE LIVE CAR HOTEL LONG-SQUARE-SHAPE (left-forward)
Trns: *By the camper van hotel.*
7. Abe Gaze: Ben-----
→₁ Sign: [(FL 3.7)]
8. Ben Gaze: Abe-----
Sign: [(1.3) FILLED-PAUSE SEM]
Trns: *uhm.. In Sem.*
9. Abe Gaze: Ben-----
Sign: (nod)
Trns: *Mhm*
10. Ben Gaze: Abe-----left---
Sign: LOOK MOTOR ROAD LOOK-left
Trns: *When you're on the highway, on your left*
11. Gaze: Abe-----
Sign: HUGE
Trns: *there's a huge*
12. Abe Gaze: Ben-----
→₂ Sign: A-S-[K-J-E-M (square long shape)] YES YES
Trns: *The Askjem-building? Yes, yes.*
13. Ben Gaze: -----
Sign: [(nod) A - S - K - J - E - M]
Trns: *mhm, Askjem*
14. Gaze: -----
Sign: [BEHIND]
Trns: *It is behind*
15. Abe Gaze: Ben-----own food
→₃ Sign: [GO-UNDER] (upward nod) BEHIND POINT-Ben (nod)
Trns: *So you go under? Oh, behind. Mhm.*



Figure 5: Place reference followed by freeze-look response. (Lines 6–8.)

The first repair initiation occurs in line 7, where Abe produces a freeze look lasting 3.7 s. subsequent to Ben's referring to the "camper van hotel."⁷ This is relatively long, as the 28 freeze looks in the NTS data range from 0.2 to 4.1 s, with an average of 1.0 s. This OCRI, by its referential weakness, leaves Ben without any specific information of what Abe is having trouble with, but its adjacency to the reference to the camper van hotel suggests that this reference was the problematic one for Abe (Schegloff 2000; Levinson 2015). Ben (8) first pauses, then produces a filled pause by wiggling his fingers and starts another explanation of the location. Ben restarts with the already established place reference "Sem" (8), and Abe releases his long freeze look with a nod (9). Figure 5 shows Abe staying unresponsive from Ben's mentioning of the camper van hotel (line 6) to Ben's restart, referring to Sem again (line 8).

Ben (19) continues by saying that if you look to the left from the highway (in Sem), you see a huge building, and Abe (12) initiates repair by offering a candidate understanding for confirmation, suggesting that Ben is referring to the so-called Askjem building. Ben (11) immediately and overlappingly confirms by nodding and finger spelling along with Abe (Figure 6).

Ben adds more specificity by saying that the school where the evening classes are taught is located *behind* this building, but Abe is already initiating repair by offering another candidate understanding, suggesting that one needs to go *under* something (probably under a road or a bridge) to get there. The two overlapping utterances are shown in Figure 7.

Abe sees Ben's positioning of the school and displays understanding (an upward nod, which is translated as "Oh") and displays perception by other repeating "behind" (Figure 8).

Abe then withdraws his gaze and returns to eating his food.

The repair work in the above example starts with a repair initiation (7) following the trouble-source turn (6) referring to the camper van hotel. Ben's self-repair (8, 10, 11) does not elaborate on this reference but instead

⁷ A place for storing camper vans when not in use. The NTS signer use a word-by-word rendering of the Norwegian term *bobil-hotell* ("live car hotel").



Figure 6: Ben's (left) overlapping confirmation of Abe's finger spelling. (Lines 12 and 13.)



Figure 7: Candidate understanding offer (Abe to the right signing UNDER) overlapping with Ben signing BEHIND). (Lines 14 and 15.)

employs other strategies to communicate the location of the school. The next repair initiation (12) is thus not addressing the initial trouble source (6), but Ben's prior self-repair (8, 10, 11) of the initial trouble source (6). The third repair initiation (15) is what Dingemanse, Kendrick, and Enfield (2016) call an *external question*, not targeting what was said, but what was missing, i.e., treating the prior turn as *underspecific* (Crawley 2016). The information Abe needed (the precise location of the school) was, however, produced by Ben (14) overlapping with Abe's third repair initiation in line 15. Ben's line 14 hence has both the function of being a second installment of the prior self-repair and a new self-repair, in response to Abe's third repair initiation.

1. Abe Gaze: Finn-----
Sign: CHRISTMAS TABLE PAY SUM?
Trns: *How much did we have to pay for the Christmas party?*
2. Finn Gaze: Abe-----Carl-----
Sign: PALMS-UP TWO-HUNDRED KRONER TWO-HUNDRED____
Trns: *Uhm.. Two hundred kroner? Was it two hundred?*
3. Carl Gaze: Finn-----Abe--
Sign: (0.8)TWO-HUNDRED KRONER [YES TO]
Trns: *Two hundred kroner, yes, to*
4. Finn Gaze: Carl-----Down-----
Sign: _____(nod) [YES YES]
Trns: *Yes, yes*
5. Abe Gaze: Carl-----
→₁ Sign: PR PERSON TWO-HUNDRED?
Trns: *Two hundred per person?*
6. Carl Gaze: Abe-forward-Abe-----
Sign: (0.3)YES YES TO PASCALE
Trns: *Yes, to Pascale*
7. Abe Gaze: Forward-Carl-----
→_{2A} Sign: MEAN MEAN I MY WOMAN SUM FOUR-HUNDRED
Trns: *So, for me and my girlfriend, the sum is four hundred?*
8. Carl Gaze: Abe-----
→_{3A} Sign: (FL 0.6)
9. Gaze: Abe-----
→_{3B} Sign: (Leans forward and lowers eyebrows)
Trns: *huh ?!*
10. Abe Gaze: Carl-----
→_{2B} Sign: MEAN WOMAN MY WITH MEAN I TRA[NSFER FOUR]HUNDRED
Trns: *So, when my girlfriend is coming I transfer four hundred*
11. Carl Gaze: Abe-----
Sign: [NO NO-NO] NO-NO
Trns: *No, no, no, no, no*
12. Gaze: Abe-----
Sign: CHRISTMAS TABLE MOVE-AWAY ONLY PRESENT_____
Trns: *Forget about the Christmas party. Just the presents.*
13. Gaze: Down-----
Sign: YES (oral[o]nodding)WITH I PAY TWO-HUNDRED
Trns: *Oh. I get it. I pay two hundred.*

When Abe (1) asks Finn how much they must pay, there is no preposition (for, at, etc.) which could reveal whether he is referring to the fee (*for* the party) or the money for presents (to be paid *at* the party). Finn (2) hesitates and suggests “two hundred?” while gazing over at Carl. Carl (3) suspends his response for 0.8 s before he confirms back to Finn that it is “Two hundred kroner, yes,” as shown in Figure 9.



Figure 9: Finn holds “TWO-HUNDRED?” and Carl confirms. Abe is watching. (Lines 2 and 3.)

Carl immediately adds “to” but Finn has already withdrawn his gaze, and Carl aborts. Abe then (5) does the first repair initiation in this multiple sequence, targeting Carl’s (and Finn’s) previously reported sum of “Two hundred” by providing a candidate offer “Two hundred per person?” Carl gazes briefly (0.3 s) at Abe and then looks forward while signing “Yes, yes” and looks at Abe completing what he probably started saying in line 3, namely, that the money must be paid to Pascale. Subsequently Abe produces the second candidate offer repair initiation, calling for confirmation, that for him and his girlfriend, the sum will be 400 (7). This repair initiation becomes a trouble source. Carl (8) first does a freeze-look response for 0.6 s (Figure 10).

The freeze look seemingly has no effect on Abe (we cannot see Abe’s face properly at this moment) and Carl upgrades to an explicit nonmanual repair initiation (9), leaning forward, gazing at Abe with lowered eyebrows (Figure 11).

Abe (10) responds with a full repeat self-repair of his candidate offer repair initiation from line 7, slightly rephrased by adding that his girlfriend is coming with him and that this means that he must transfer 400. Before his self-repair/repair initiation (10) is completed, Carl (11), overlappingly halts him



Figure 10: Carl doing a freeze-look response for 0.6 seconds.



Figure 11: Carl upgrading to an explicit, open-class, nonmanual repair initiation. (End of line 9.)

with a series of negations. Carl's self-repair (12) disconfirms Abe's candidate offer and clarifies the misunderstanding, urging Abe to "Forget about the Christmas party" and that the money they are discussing are "Just [for] the presents." Abe then withdraws his gaze (13) and displays understanding and acceptance by signing "Yes," forming an [o] with his mouth, nodding and then adds "I get it. I pay two hundred." (Figure 12).

The analysis of Extract 5 shows that the first subsequent repair initiation (7) targets the prior self-repair, treating it as insufficient by providing a candidate offer. This repair initiation becomes a new trouble source, generating a subordinate OIR sequence when it is targeted first by a freeze-look response (8) and then by an explicit nonmanual OCRI (9). This upgraded repair initiation in the subordinate sequence is followed by a self-repair of the candidate offer repair initiation (10) of the superordinate sequence which gets disconfirmed. The producer of the repair initiation belonging to the superordinate OIR sequence displays understanding and the progress of the conversation is restored.



Figure 12: Abe (left) displaying understanding. (Line 13. Carl retracting his hands from the sign "PRESENT" from line 12.)

As mentioned, it is sometimes ambiguous whether the second repair initiation in a multiple OIR sequence targets the prior trouble source again, or whether it is the prior self-repair that is problematic. In Extract 5, there is an ambiguity. Abe's second repair initiation in line 7 ("So, for me and my girlfriend, the sum is four hundred?") could be motivated by a need to make sure that he has understood the first trouble source (3) where Carl mentions the number 200. But it can also be that Abe is uncertain of whether Carl was replying to Abe's initial question to Finn (1), where Abe used the term "sum," which he also does in his second repair initiation in line 7. A *sum* is different from the individual *price*. Finally, Abe might also be in doubt of who counts as a "person" here, i.e., if the "plus-ones" are included in the price or not.

Regardless of these possible interpretations of Abe's motivations to pursue what amount of money he should transfer to Pascale, the whole sequence is eventually treated as a "misunderstanding" (Schegloff 1987b; Schegloff 1992; Verdonik 2010; Hayashi et al. 2011; Ekberg 2012; Robles 2016) by Carl, as he claims the epistemic rights (Bolden 2011) to decide that Abe is the one who has misunderstood. Abe is referring to the participation fee for the Christmas party whereas Carl is referring to the money collection for presents to their bosses, and Abe accepts this interpretation of the communicative breakdown and displays understanding in line 13, in a manner that resembles "pleading guilty" of having misunderstood. The misunderstanding can be traced back to Abe who due to schisming did not attend to everything Carl said when he talked about the money collection for presents. Finn was discussing when he had to pay for the presents with Carl, which makes it likely that it was this context about paying for presents that was primarily available to be invoked by Finn when Abe asked how much they had to pay. This also goes for Carl when Finn remediated Abe's question to Carl, without using the term "sum." The participation fee (if there ever was one) had not been mentioned during this lunch break at all.

The concept of "misunderstanding" brings in the need for considering Carl's final self-repair (11, 12) as a third-position repair (Schegloff 1992; Ekberg 2012; Kitzinger 2013) and raises the question of who initiates it. It seems to be generated from Abe's questions/repair initiations being treated as inadequate by Carl. Carl's final self-repair contains the "no" that is canonical to third-position repairs but not the also typical "I mean/I don't mean" (Schegloff 1992: 1303). Third-position repairs have been described as self-initiated self-repairs, even though they are generated by the other's response, which is treated as inadequate. Employing the next-turn proof procedure (Sacks et al. 1978; Reber 2012; Sidnell and Stivers 2012; Dingemanse et al. 2015a,b), we can determine that there is nothing about Abe's repair initiations (5, 7, and 10) that indicates that he is having trouble understanding what Carl says, but rather Abe produces candidate offer repair initiations (7, 10) calling for (dis)confirmations of his inferences about what Carl is *not* saying, namely, whether bringing his girlfriend to the Christmas party leads to a doubling of the amount of money to be paid. When Carl realizes that this is Abe's project, he simultaneously seems to realize that the two are talking about different payments and corrects Abe's understanding of the topic of the conversation. He *could* of course do it differently and instead claim to have misunderstood Abe, by saying something like "Oh. You mean participation fee. I thought you were talking about the money for the presents." That way the claimed epistemic stances would have been the other way around. We might say that misunderstandings are just as mutual as mutual understandings are.

3.4 The three different trajectories and their frequential distribution

As we have seen, there are three different trajectories, or three different types of connections between two or more repair initiations among the multiple OIR sequences in the NTS data. These three patterns of multiples are not evenly distributed. This subsection summarizes the three trajectories with simplified, schematic representations based on Extracts 3, 4, and 5 and describes their distribution in the NTS data. The first trajectory where one trouble source is targeted more than once is found in all three extracts but is explicitly exemplified in Figure 13, based on the first part of Extract 3.

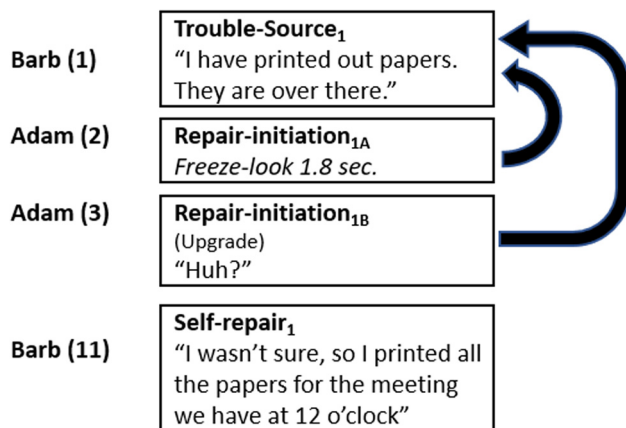


Figure 13: Multiple OIR sequences where the same trouble source is targeted more than once.

This pattern is the most common and found 26 times (50% of the subsequent repair initiations). These can be said to be results of “failing” self-repairs (Schegloff 1979: 272) if one was provided, or indeed as failing repair initiations that need to be repeated, or redesigned, usually in an upgraded more restricted version (Schegloff, Jefferson and Sacks 1977).

The second kind of trajectory constitutes an almost equally large group and consists of 24 cases (46%). These are the sequences where the repair initiations target the prior self-repair, treating it as insufficient, incomprehensible, inadequate, or in other ways dysfunctional and hence as a new trouble source. A schematic representation based on the midsection of Extract 4 is shown in Figure 14. These specific patterns are the ones referred to as “cascading” (Lerner et al. 2009; Lerner and Kitzinger 2012; Kendrick 2015).

Only two subsequent repair initiations in the data (4%) target a prior repair initiation, creating an embedded or subordinate sequence. These two rarities (one freeze-look response, which is subsequently upgraded to one explicit, nonmanual, OCRI) are presented in lines 8 and 9 of Extract 5 and are merged into one box in the schematic representation in Figure 15, to focus on the fact that they are repair initiations targeting a prior repair initiation. This trajectory constitutes an embedded OIR sequence that has to be solved before the embedding OIR sequence can be solved.

In addition to these three types, there could possibly be additional types of multiple OIR sequences in NTS, with other trajectories, like, e.g., trouble-source turns with multiple troubles that are targeted one by one (Levinson 2015) that could be found in an extended data set.

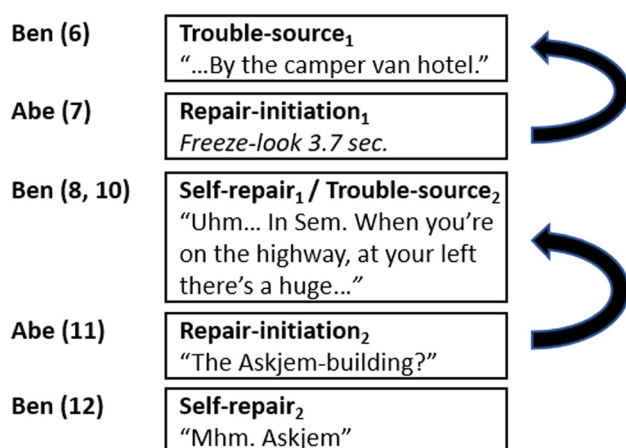


Figure 14: Multiple OIR sequences where a self-repair becomes a new trouble source.

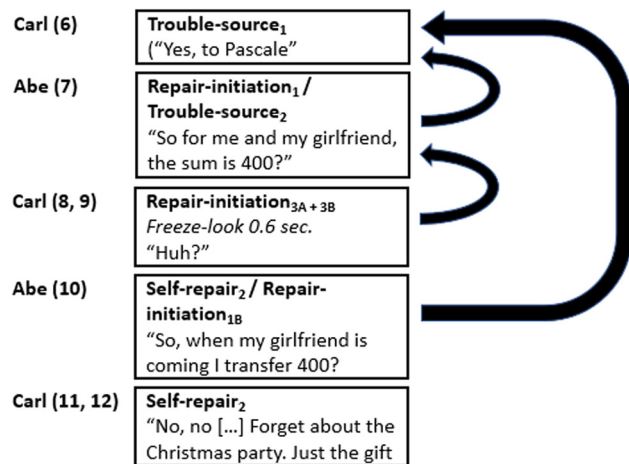


Figure 15: Multiple OIR sequences where a repair initiation becomes a new trouble source.

Section 4 presents quantitative analyses of the different formats and subtypes of OIR and how they occur in different sequential positions of first and subsequent repair initiations, and whether they restore the progress. In other words, how the different repair-initiation formats and subtypes are distributed in closing and nonclosing cases.

4 Quantitative findings about multiple OIR sequences in NTS

The high frequency of multiple OIR sequences in the NTS data allows for quantitative investigations of both the distribution of the different types of multiple sequences and the various formats of repair initiations, and their sequential positions in single and multiple OIR sequences. There has traditionally been a resistance toward mixing CA with quantitative methods (Schegloff 1993). Schegloff (1993), however, also notes that practices of OIR are "relatively well defined" and "can be 'qualified' for quantitative treatment" (p. 115). Over the years, several studies have provided quantitative analyses of the distribution of various phenomena retrieved from conversational data (e.g. Floyd et al. 2015; Manrique 2016; Sikveland et al. 2016; Manrique et al. 2017). The data subsets in this study are internally comparable in the way that they are all "breaks" and they are all 10-min extracts of recordings of three or more adult NTS signing colleagues. The extracts are diverse in that they show 16 different signers in six different conversations with all different topics and discussions. It is crucial to have in mind that the recordings do not represent anything other than themselves, and selecting other parts of the conversations, inviting other informants, or arranging the recordings other days or places might well have dramatically changed both the qualitative and the quantitative findings.

The NTS data examined for this study contain 112 individual cases of repair initiation distributed over 63 sequences. Of these sequences, 36 are single OIR sequences, while 27 are multiple OIR sequences containing between 2 and 6 repair initiations. Of the 27 multiple OIR sequences, 12 contain two repair initiations, while 10 contain three. Only five sequences contain more than three repair initiations (three sequences contain four, one contains five, and one contains six). The scarcity of sequences with high numbers of repair initiations is in accordance with Schegloff's (1979: 277) claim about multiple *self*-initiations of self-repair: "Cases with more than two repairs on a same repairable are the harder to find the more repair segments are involved." Also Dingemanse's (2015) research on Siwu concludes that very few multiple OIR sequences contain more than three repair initiations. It is also suggested (Dingemanse 2020) that there may be a "rule of three," i.e., in social interaction, there is a limit of three attempts to solve an instance of trouble in communication before the disruption becomes too prominent and the preference of progressivity (Stivers and Robinson 2006; Clift 2016) outweighs that for intersubjectivity.

Even though multiple OIR sequences have been described as infrequent (Schegloff 2000; Kitzinger 2013), they have been found in different languages by several researchers. The cross-linguistic OIR coding scheme in the special issue of *Open Linguistics* (Dingemanse et al. 2016: 38) has categories for coding cases as single cases (“one and only”) or part of multiple sequences by determining them as “first,” “other,” or “last” in multiple OIR sequences. This allows us to analyze the correlations of different formats of repair initiation and their distribution in these four sequential positions and combinations of these.

Section 4.1 presents the distribution of different formats and subtypes of repair initiation from the NTS data in these four sequential positions, and in combinations, separating “first” repair initiations from “subsequent,” and finally by regrouping the cases into “closing” and “nonclosing” cases.

4.1 Formats of repair initiation in four sequential positions

The first column in Table 1 shows all 112 individual repair initiations in the NTS data and the counts of different formats and subtypes. Three subtypes of OCRIs were found in the NTS data: nonmanual expressions, which can be compared with spoken language interjections like “Huh?” (Manrique et al. 2017), generic question word produced manually (“what”), and the implicit repair-initiation format freeze look. Freeze-look responses, positioned in the far weak end of the strength scale (Manrique and Enfield 2015), constitute the next largest group of subtypes.

Formulaic OCRIs (Dingemanse, Kendrick, and Enfield 2016; like “sorry” or “pardon” in English) were not found in the NTS data. This does not mean that formulaic repair initiations do not exist in NTS. It may be due to the informal situational context of the recordings, and the informants knowing each other. A recent study of 126 OCRIs in spoken Finnish used by hard of hearing adults in different situational contexts shows that the formulaic repair-initiation *anteeksi* (“sorry”) is the most frequent repair initiation when visiting the hearing clinic, while it is one of the least frequent at work and never used in conversations recorded in the informant’s home (Laakso et al. 2019: 629).

The restricted repair initiations in Table 1 have been divided into requests for specification and candidate offer repair initiations, which call for (dis)confirmation. Candidate offers can sometimes be divided into offers of candidate *understandings* and candidate *perceptions* by the way they are composed or by how they are responded upon. Often it is, however, difficult or even impossible to tell whether the trouble announced or responded to is about perception or understanding (which is of course dependent on sufficient perception); and in the tables, candidate offers are treated as one subformat of repair initiation. The

Table 1: Distribution of different formats for repair initiation in the total NTS data and in four sequential positions

Format	Explicit/ implicit	Subformat	Total cases <i>n</i> = 112	Single cases <i>n</i> = 36	First in multiple <i>n</i> = 27	Other in multiple <i>n</i> = 22	Last in multiple <i>n</i> = 27
Open	Explicit	Nonmanual	10 (9%)	4 (11%)	3 (11%)	2 (9%)	1 (4%)
	Explicit	Question word (what)	1 (1%)	0 (0%)	0 (0%)	0 (0%)	1 (4%)
	Implicit	Freeze-look response	28 (25%)	9 (25%)	9 (33%)	8 (36%)	2 (7%)
	Total		39 (35%)	13 (36%)	12 (44%)	10 (45%)	4 (15%)
Restricted	open- class						
	Explicit	Request specification	10 (9%)	2 (6%)	3 (11%)	1 (5%)	4 (15%)
	Explicit	Candidate offer	63 (56%)	21 (58%)	12 (44%)	11 (50%)	19 (70%)
	Total		73 (65%)	23 (64%)	15 (56%)	12 (55%)	23 (85%)
	restricted						

candidate offer repair initiations are regarded the most restricted or most referentially strong repair initiations (Schegloff et al. 1977; Manrique and Enfield 2015), with regard to their ability to *frame* or *present* (Jefferson 1972) what was problematic in the trouble-source turn.

Total OCRIs and total restricted repair initiations are summarized below each listing of subtypes. Their distribution is presented with counts and percentages.⁸

The four rightmost columns in Table 1 present the distribution of different formats and subtypes of repair initiation in each of the four different sequential positions: “single cases,” “first in multiple,” “other in multiple,” and “last in multiple,” along with the percentages they constitute of the repair initiations within each sequential position. The table shows that the OCRIs in general are more frequent in the positions “first in multiple” (44%) and “other in multiple” (45%) than they are in the total cases (35%) and that they are quite few in the position “last in multiple” (15%).

Restricted repair initiations in general, on the other hand, make up 65% of the total cases and 64% of the single cases. The restricted repair initiations that occur in multiple sequences have a skewed distribution. They are fewer in the positions “first in multiple” (56%) and “other in multiple” (55%), while they constitute a larger proportion of the repair initiations in the position “last in multiple” (85%).

The proportions of total OCRIs and total restricted repair initiations are approximately the same between total cases (35% and 65%) and single cases (36% and 64%). The proportions of total OCRIs and total restricted repair initiations are also relatively similar across “first in multiple” (44% and 56%) and “other in multiple” (45% and 55%), suggesting that few upgrades have been made from, e.g., first to second (failed) repair initiation. Possibly, it even suggests that subsequent repair initiations that are not referentially upgraded tend not to become the last repair initiation in multiple OIR sequences.

If we focus on the subtypes of repair-initiation formats, Table 1 shows us that the referentially weakest repair initiations, the freeze-look responses, are overrepresented in the position “first in multiple” (33%) and in “other in multiple” (36%), compared to being 25% of the total cases and notably fewer (7%) in the position “last in multiple.” The most restricted or referentially strongest subtype is the candidate offering repair initiations. They represent the largest group of repair-initiation subtypes both in the total data and across all four sequential positions. They are nonetheless less frequent among the “first in multiple” (44%) than in the total cases (56%) and more frequent as we move across the positions “other in multiple” (50%) and “last in multiple” (70%).

One of the few quantitative analyses of multiple OIR sequences known to me is Rossi (2015), dividing the total of 207 repair initiations in his Italian data into 130 first cases and 77 subsequent cases, and hence indicating a considerable amount of multiple OIR sequences. Section 4.2, like Rossi (2015), presents the distribution of different formats of repair initiation in the NTS data, occurring as a first (and sometimes sufficient) repair initiation, or as subsequent, following another (failed) repair initiation in a multiple OIR sequence.

4.2 Formats of repair initiation in first and subsequent cases

Combining “single cases” with “first in multiple” creates the group “first cases.” Combining “last in multiple” with “other in multiple” gives us “subsequent cases.” We can now compare the distribution of the different formats of repair initiations both in the whole data set and in the first versus subsequent cases, like Rossi (2015: 260). Differences in distribution across the different sequential positions are not as salient in my data as they are in Rossi’s report (2015) on first and subsequent repair initiations in Italian. The Italian OCRIs were 30% of the total data but made up 40% of the first cases and only 14% of the subsequent cases. The NTS OCRIs (see the row “Total open class” in Table 2) make up 35% of the total cases, 40% of the first cases, and only 29% of the subsequent cases. The Italian and the NTS data are, however, skewed in the same ways.

⁸ All percentages are presented as integers. This gives an occasional inaccurate display of results, like in Table 1, column “First in multiple” where $11.1\% + 44.47\% = 55.6\%$ is rounded off to $11\% + 44\% = 56\%$.

Table 2: Distribution of different formats for repair initiation in the total NTS data and in first and subsequent cases

Format	Explicit/implicit	Subformat	Total cases <i>n</i> = 112	First cases <i>n</i> = 63	Subsequent cases <i>n</i> = 49
Open	Explicit	Nonmanual	10 (9%)	7 (11%)	4 (7%)
	Explicit	Question word (what)	1 (1%)	0 (0%)	1 (2%)
	Implicit	Freeze-look response	28 (25%)	18 (29%)	10 (20%)
	Total open class		39 (35%)	25 (40%)	14 (29%)
Restricted	Explicit	Request for specification	10 (9%)	5 (8%)	5 (10%)
	Explicit	Candidate offer	63 (56%)	33 (52%)	30 (61%)
	Total restricted		73 (65%)	38 (60%)	35 (71%)

As Table 2 shows, the majority of repair initiations as a whole, and in both sequential positions, are candidate offers. Both sequential positions, however, also contain repair initiations of the referentially weaker kind (Schegloff et al. 1977). If we look at the row “Total restricted,” Table 2 shows that while the restricted repair initiations represent 65% of the total cases, they make up 60% of the first cases and 71% of the subsequent cases. Even though the difference is not overwhelming, this supports the idea that there is a preference for trying the easiest solution first and producing more costly and restricted repair initiations only if necessary (Schegloff et al. 1977; Pomerantz 1985; Svennevig 2008).

Dividing the cases into first and subsequent ones does, however, not tell us whether the repair initiations lead to restored progress. First cases include both single cases, which instantly restore the progress, and cases that occur first in multiple sequences and hence can be followed by several subsequent repair initiations before the progress is restored. Subsequent cases include not only the last cases in multiple sequences but also those labeled “other in multiple” which do not restore progress.

In the following section, we will turn the categories “first” and “subsequent” around and regroup the cases into “preceding” and “last” – or rather “nonclosing cases” and “closing cases,” to see whether quantitative analysis can tell us anything about the “clearance rate” of different formats of repair initiation.

4.3 Formats of repair initiation in closing and nonclosing cases

The two sequential positions “single cases” and “last in multiple” in Table 1 represent repair initiations that are followed by a restoration of the progress of the conversation and will now be merged into the new category “closing cases.” The cases coded as “first in multiple” and “other in multiple” will be combined into “nonclosing cases.” Table 3 shows the distribution of different formats and subtypes of repair initiation across the whole data set in the first column (for comparison) and then their distribution in nonclosing versus closing cases.

Table 3: Distribution of different formats for repair initiation in the total NTS data and in nonclosing and closing cases

Format	Explicit/implicit	Subformat	Total cases <i>n</i> = 112	Nonclosing cases <i>n</i> = 63	Closing cases <i>n</i> = 49
Open	Explicit	Nonmanual	10 (9%)	5 (10%)	5 (8%)
	Explicit	Question word (what)	1 (1%)	0 (0%)	1 (2%)
	Implicit	Freeze-look response	28 (25%)	17 (35%)	11 (17%)
	Total open class		39 (35%)	22 (45%)	17 (27%)
Restricted	Explicit	Request for specification	10 (9%)	4 (8%)	6 (10%)
	Explicit	Candidate offer	63 (56%)	23 (47%)	40 (63%)
	Total restricted		73 (65%)	27 (55%)	46 (73%)

Table 3 shows that the distribution of question-word OCRIs, nonmanual OCRIs, and restricted requests for specification is quite similar across all the columns. Focusing on the total OCRIs, we see that while they occupy 35% of the total cases, they make up 45% of the nonclosing cases and only 27% of the closing cases. Inversely, the restricted formats, which are 65% of the total cases, are fewer in the nonclosing cases (55%) than in the closing cases (73%).

These findings are not radically different from what we found when comparing the first and subsequent repair initiation. The skewed distribution of repair-initiation formats is a bit more salient here, but more importantly, we are now comparing failing and successful repair initiations.

The highest degree of difference generated from dividing the cases into closing and nonclosing cases in Table 3 is found for the two most extreme subtypes regarding referential strength. The freeze-look responses make up 25% of the total cases. They constitute 35% of the nonclosing cases, but only 17% of the closing ones. Also, candidate offers make up 56% of the total repair initiations in the data, constituting only 47% of the nonclosing cases but 63% of repair initiations among the closing cases.

This tells us that in NTS also there is a preference for nonclosing freeze-look responses being upgraded to more restricted formats of repair initiation. Two deviant cases are found in the data where nonclosing (failing) freeze looks are followed by another closing freeze look, i.e., the interlocutors are not upgrading to a referentially stronger repair initiation but (re)producing a similar repair-initiation subtype with the same referential strength.

4.4 Referentially downgrading repair initiations?

As we have seen, none of the freeze-look repair initiations in the NTS data occur as “referentially downgraded” following a more restricted repair initiation, as they are reported to do in spoken multilingual/second-language interaction (Oloff 2018). Even though there are no examples of referentially downgraded subsequent repair initiations in the NTS data employed for this study, it is not unlikely that a more extensive data set would also include such trajectories. Pursuit of an adequate self-repair along a trajectory of multiple repair initiations, upgrading in restrictedness, evidentially sometimes leads to an experience of sufficient mutual understanding and restored progress. In other cases (not found in the NTS data), they may not. One or both interlocutors may reach a point where they experience that they are not approaching mutual understanding but revealing that there are severe differences in how they understand what they are talking about. Such situations might lead to a referential downgrading from a restricted repair initiation to a weaker OCRI, like in line 21 of Kendrick’s (2015b) example of a multiperson multiple OIR sequence in English (Extract 6).

Extract 6: From Kendrick (2015b, Extract 2, 167). Original unique identifier [RCE08 UK Housemates I 29:23] (Right column adjusted to fit terminology in this article).

1.	Jam: Right, when are you ready?	Trouble-source
2.	(1.1)	
3.→	Ker: Ready for what?	Repair-initiation
4.	(0.9)	
5.	Jam: To do the boost.	Self-repair/trouble-source
6.	(0.7)	
7.→	Ker: What boost.	Repair-initiation
8.	(1.1)	
9.	Jam: Out the room.	Self-repair/trouble-source
10.	(0.8)	
11.	Ker: ↑Ah >in about five minutes.<	
12.	(0.2)	

13.→ Ben:	What room.	Repair-initiation
14.	(0.8)	
15. Jam:	This room.	Self-repair
16.	(0.5)	
17.→ Ben:	Boost? What's a boost.	Repair-initiation
18.	(0.8)	
19. Jam:	Do the boost.	Self-repair/trouble-source
20.	(0.2)	
21.→ Ben:	I don't understand.	Repair-initiation
22.	(1.0)	
23. Jam:	Leave.	Self-repair
24.	(2.8)	
25. Ben:	Whenever we're ready.	

In this extract (6), Ben's first two repair initiations (13 and 17) are restricted. They both contain partial repeats of the trouble-source turn and question words, but Jam's failed self-repairs (15 and 19) seemingly do not bring the conversation to a restored progress. Ben then (21) produces a referentially downgraded repair initiation ("I don't understand") with no framing or presentation of what makes the trouble-source turn problematic, other than specifying that it is a problem of understanding and not of hearing (Kendrick 2015b). Neither Kendrick (2015b) nor Oloff (2018) discusses the phenomenon of referential downgrading, but both explain their findings of OCRIs following restricted repair initiations as not being about perception. Kendrick refers to the above example (line 21 in Extract 6) as a "last resort" (2015b: 177), and Oloff suggests that subsequent freeze displays are signaling that a "let it pass" strategy (Firth 1996) cannot be used anymore (Oloff 2018: 49).

Referentially downgraded subsequent repair initiations are not found in the NTS data and, to my knowledge, not discussed elsewhere. Referential downgrades probably must be seen as exceptions from the pattern of subsequent repair initiations regularly upgrading in referential strength. Such exceptions call attention to the well-established continuum of referential strength and indicate that other parameters or other continua might also be considered. One such candidate may be a scale of "confidence/uncertainty" (Schegloff et al. 1977: 378). A way of implementing the referential downgrades into the continuum of strength would be to understand them as following a "looping trajectory," where the upgrading (failing) repair initiations and subsequent (failing) self-repairs seem to reveal less mutual understanding rather than more, forcing the interlocutors to step down in terms of restrictedness, by employing an OCRI with a wider scope. Another way to see this phenomenon is to consider the referentially downgraded subsequent repair initiation as a token of "starting over" and hence constituting the first repair initiation in a new (potentially multiple) OIR sequence.

An intriguing aspect of the analyses of different formats of repair initiation and their occurrence in different sequential positions is whether it is possible to say anything about the efficiency of the different formats. In Section 4.5, I will sum up the comparisons with special attention to the freeze-look repair initiations and candidate offer repair initiations and how effectively they restore the progress of conversation.

4.5 Different clearance rate from different formats of repair initiation?

Table 1 shows how repair initiations in the NTS data can occur in four sequential positions: "single cases," "first in multiple," "other in multiple," and "last in multiple." The single cases and the total cases show fairly similar distributions of OCRI and restricted repair initiation. This indicates that single cases in the NTS data, with their immediate restoration of the progress, are not the results of special efforts with an increased proportion of restricted repair initiations. The positions "first in multiple" and "other in multiple" also show this kind of symmetry. Comparing (any one of) these two positions with "last in multiple" gives the highest difference in percentages between formats and subtypes of repair initiations. In the positions "first" and "other" of multiples,

the total OCRIs are 44% and 45% and the total restricted repair initiations are 56% and 55%. In the position “last in multiple,” the OCRIs are only 15% while the restricted repair initiations make up 85%. This indicates that when trouble has proven to be persistent, the actions taken are different than initial attempts.

Comparing the first and subsequent repair initiations demonstrated a notable difference in the Italian data of Rossi (2015). The method reveals a similar skewness in referential strength among the repair initiations also in the NTS data (Table 2), though the difference is not as salient as in the Italian data.

The results from comparing the nonclosing cases with the closing cases (Table 3) are not radically different from those found when comparing first and subsequent cases (Table 2). Table 3 shows the distribution of the various formats of repair initiation that do or do not restore progress of the conversations. While the total data contain 65% restricted repair initiations, nonclosing cases have 55% and closing cases have 73%. The percentages of candidate offer repair-initiations constitute 56% in the total NTS data. In non-closing cases, they constitute only 47%, and in closing cases 63%. These results suggest that restricted formats, and especially candidate offer repair initiations, occur as a result of multiple attempts to restore progress, but also that restricted repair initiations and particularly candidate offer repair initiations have a higher clearance rate than the OCRIs.

Comparing the closing and nonclosing cases reveals differences that could be said to indicate that restricted repair initiations, and especially candidate offers, more efficiently restore the progress than the OCRIs do, and that freeze-look repair initiations have the lowest clearance rate. It could even be tempting to formulate the preferences of restrictiveness in normative sentences (“one should [...]”), like Levinson (2015: 394), by recommending restricted repair-initiation formats over OCRIs for more efficient problem solving. Calculating the clearance rate of the different repair-initiation formats and subtypes based on their occurrence in closing cases, we see in Table 3, that only 11 of the total 28 freeze-look responses lead to restored progress, whereas 40 of the 63 “more efficient” candidate offers do restore the progress. To avoid jumping to any conclusions, and simply prescribe one format of repair initiation over another, it is necessary to consider a few other aspects.

One such aspect is that choosing a format for repair initiation is not completely free. In addition to the established scale of referential strength, or restrictedness (Schegloff et al. 1977), Dingemanse, Blythe and Dirksmeyer (2014) suggest that formats of OIR can also be ordered with respect to how they distribute responsibility for the trouble and the solution of it and to how they in various ways imply differences in knowledge between the trouble-source utterer and the repair initiator. Even though candidate offer repair initiations seem to have the highest clearance rate, many interactional and interpersonal concerns are addressed in interpersonal communication that can outweigh the desire for efficiency. Presenting candidate offers is a “risky business” (Antaki 2012: 531). They are potentially more face threatening (Goffman 1967; Brown and Levinson 2013) toward the utterer of the trouble source than other formats (Pomerantz 1985; Manrique and Enfield 2015) as they can occupy the boundary between other-initiation of *self-repair* and doing the more invasive and hence dispreferred (other-initiated) *other-repair* (other-correction) (Albert and de Ruiter 2018). Candidate offers are also potentially face threatening to the one who offers them, as they depend on a certain perception and understanding. To be able to successfully offer a candidate understanding, the recipient needs to have an understanding in the upper levels of the Austin/Clark ladder. It would not be efficient, nor face preserving for any of the interlocutors if the recipient offered candidates based on mere guessing. OCRIs are regarded as less face threatening than the restricted ones (Pomerantz 1985), and implicit freeze-look repair initiations are probably the least face threatening to the repair initiator, as they do not need to be accounted for, while an explicit “Huh?” is undeniable (Manrique et al. 2017). The quantitative investigation of OIR practices in 12 different languages done by Dingemanse et al. (2015a,b) concludes that interlocutors, rather than minimizing their own effort, generally choose the most specific repair initiation available to them with an orientation to the collaborative effort.

A possibility is that the degree of clearance rate might be interesting for some professional language workers, like interpreters of spoken and signed languages, who are oriented toward the accuracy of their understandings and renderings and also trained to initiate repair efficiently and minimize interception of the progress of the conversation between the primary parties (Napier et al. 2010). There are, however, too

many interactional, interpersonal, and contextual factors involved in any individual case of repair initiation to prescribe any practice as generally more efficient than others.

5 Conclusion

This article examines sequences with multiple OIR extracted from a conversational corpus in NTS qualitatively and quantitatively. The results indicate that in NTS, like in other languages previously investigated, subsequent repair initiations are overwhelmingly produced in more restricted, or more referentially strong, formats than preceding repair initiations within the same multiple OIR sequence. Candidate offer repair initiations, being the most restricted format, are more frequent among the subsequent and closing cases than in initial cases. Candidate offering repair initiations are clearly overrepresented in the closing cases in the NTS data. They are also the most frequent format in the total data.

OCRI has more advantages to them than merely being easy to produce. They are also less face threatening to both interlocutors, and they can be employed also when the recipient of the trouble-source utterance has not perceived or understood enough to offer a candidate. However, OCRI has a lower tendency to restore the progress of the conversation.

The implicit, nonmanual, OCRI known as freeze-look response in LSA (Manrique and Enfield 2015; Manrique 2016; Manrique et al. 2017) is most frequent in first cases and does not occur subsequent to a more restricted repair initiation in the NTS data. This differs from Oloff's (2018) findings in spoken, multilingual/L2 conversations, where she reports that "freeze displays" rarely occur as first repair initiations but more frequently as subsequent. With reference to the continuum of strength (Schegloff et al. 1977), freeze-display repair initiations subsequent to more restricted formats would be defined as referentially downgraded to a repair initiation with a wider scope, rather than referentially upgraded. This suggests that the freeze-look response repair initiation found in the signed languages NTS and LSA and the freeze display, as described in spoken conversation by Oloff (2018), share several features in appearance and that they both have the function of an OCRI. They differ regarding their preferred distribution in sequential positions, something that needs to be further explored. Further research into freeze look/freeze display among L1 and L2 users of different spoken and signed languages could also help us understand whether these differences correlate with the differences between languages or between modalities, language proficiency or merely between contexts, corpora, and researchers' diverse foci.

There generally seems to be more similarities than differences in how OIR is done in different languages, pointing toward a "universal sequential structure" (Dingemanse and Enfield 2015: 113), and a tendency that people "become more specific in their subsequent choice of repair initiator" (Dingemanse et al. 2015b: 7). The signed languages investigated so far seem to be relatively consistent with spoken languages regarding these general patterns (Dively 1998; Dingemanse et al. 2014; Dingemanse and Enfield 2015; Dingemanse et al. 2015a,b; Manrique and Enfield 2015; Manrique 2016; Manrique et al. 2017; Skedsmo 2020).

The use of OCRI subsequent to more restricted repair initiations, found in English by Kendrick (2015b) and in spoken multilingual/L2 data by Oloff (2018), might be an example of nonuniversal sequential structures that deserve more attention in the future. A potential implication of these and other kinds of "reopenings" or downgrades along the scale of strength/restrictedness could be to consider employing other scales. One candidate is a scale of "confidence/uncertainty" (Schegloff et al. 1977: 378). Other alternatives are to order formats of repair initiation by how they distribute responsibility or imply differences in knowledge (Dingemanse et al. 2014) or indeed other parameters indicating, e.g., the interlocutors' experience of mutual understanding.

The analyzed NTS data contain a large number of multiple OIR sequences. The two most common trajectories found for two consecutive repair initiations in the data are that one trouble source is targeted by more than one repair initiation, most often in the shape of one or more upgrades or that the self-repair becomes a new trouble source and, hence, is targeted by another repair initiation. A third trajectory, where the repair initiation becomes the trouble source for a subsequent repair initiation, is rare but existent in the NTS data.

Abbreviations

ASL	American Sign Language
CA	Conversation analysis
L1	First language
L2	Second language
LSA	Argentine Sign Language (Lengua de Señas Argentina)
NTS	Norwegian Sign Language (Norsk tegnspråk)
OCRI	Open-class repair initiation
OIR	Other-initiation of self-repair

Transcription conventions

Gaze-tier (upper tier)

Name————	Interlocutor is gazing toward another person for as long as the dashes show.
Direction———	Interlocutor is gazing in the direction noted for as long as the dashes show. Directions are e.g. down.
Shut———	Interlocutor is closing eyes more than a brief blink. Dashes indicate for how long the eyes are shut.

Sign-tier (second tier from top of each section/line)

SIGN	Sign from Norwegian Sign Language glossed with an English word in uninflected form.
POINT(Name)	Pointing toward another interlocutor, or to indicate references like “them,” “there” etc.
I	Pointing toward self.
[angled brackets]	Indicating simultaneous signing.
SIGN_____	Turn-final holding of last part of sign for as long as the underline shows.
(Action)	Nodding or other nonmanual or manual actions.
SIGN!	Emphasized pronunciation of sign.
SIGN?	Question-marked pronunciation (eyebrows lowered or raised).
FL (0.7)	Freeze-look response for 0.7 s.
→	Indicate repair initiations in transcriptions and summaries.
SIG*	Aborted sign (Translated as “Sig...”).

Gray background indicates lines occurring simultaneously, to display gaze, overlapping signing etc.

Transcription conventions from Jefferson (2004) used in Extract 1 (from Schegloff, Jefferson and Sacks 1977, 367), Extract 2 (from Schegloff, Jefferson and Sacks 1977, 369) and Extract 6 (from Kendrick 2015b, 167):

//	The point at which a current speaker’s talk is overlapped by the talk of another.: Prolongation of immediately prior sound.
↑	Especially high pitch.
> words <	The carat-bracketed material is speeded up.
-	Cut-off.

Supplemental material

Video clips of Extracts 3–5 subtitled with translations to English and coding schema for individual repair initiations can be downloaded from OSF: https://osf.io/9ngbx/?view_only=819675dc8d0744f0aeb402c06c60807d.

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