Alternating gaze in multi-party storytelling

by

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Abstract

We present a single case study on gaze alternation' in three-party storytelling. The study makes use of the XML method, a 'combinatorial approach' (Haugh & Musgrave 2019) involving multi-modal CA transcription converted into the XML syntax. We approach gaze alternation via (i) the addressee-status hypothesis, (ii) the texturing hypothesis, and (iii) the acceleration hypothesis. Hypothesis (i) proposes that the storyteller alternatingly looks at the recipients not only when their addressee status is symmetrical but also when their addressee status is asymmetrical. Hypothesis (ii) predicts that gaze alternation 'textures' the telling by occurring when the storytelling progresses from one segment to another. Hypothesis (iii) states that gaze alternation accelerates toward Climax and decelerates in Post-completion sequences. The analyses support the hypotheses. They suggest that alternating gaze works against the danger of exclusion caused by the dyadic structure of conversation. It further partakes in story organization as it occurs at points of transition from one story section to another section. Finally, accelerated gaze alternation constitutes an indexical process drawing the recipients' attention to the immediate relevance of stance display (Stivers 2008). We conclude that the three hypotheses warrant further investigation to determine their generalizability across speakers and speech situations.

1. Introduction

Gaze provides an omni-present resource in face-to-face conversation. It is incessantly involved in intricate ways in conversation's "complex interactional dance, as it were, with frequently alternating periods of gazing at the other and gazing away" (Kendrick & Holler 2017: 1). Research suggests that the way gaze participates in that dance is anything but random but rather orderly (Sacks 1984): gaze is used in ways "that are not idiosyncratic to one speaker but part of the regularized contingencies of interaction" (Haddington 2006: 283; but see, for example, Rossano et al. [2009] who found that gaze behavior in different cultures may exhibit significant differences).

The role of gaze in conversational interaction has garnered considerable attention in conversation-analytic research. Most of this work has examined gaze from three perspectives: gaze and participation, gaze and turn-taking, gaze and action formation (for an overview of the literature, see Rossano 2013). Research on the association of gaze and participation format is exemplified in Heath (1984) studying the co-occurrence of gaze and shifts in body posture as a display of recipiency toward an incipient storytelling activity. The role of gaze in turn-taking has been illuminated, for instance, in Lerner (2003) who identified gaze as a means by which current speakers select next speakers. A study investigating the role of gaze in action formation (and recognition) is, for example, Sidnell (2006) who, examining reenactments and conceptualizing them as "a recognizable structure of activity within which different modalities are integrated so as to constitute a coherent course of conduct" (Sidnell 2006: 380), highlights the role of gaze as a resource for speakers to demarcate the 'right end' of reenactments. Recently, gaze research has been aided by the use of eye-tracking technology (e.g., Holler & Kendrick 2015, Weiß & Auer 2016, Kendrick & Holler 2017).

A foundational study in gaze research is Kendon (1967), who proposed a three-way functional distinction for gaze behavior in interaction. Where its function is *regulatory*, gaze signals the speaker's desire to take, hold, or yield the turn, for example by way of 'gaze-directional addressing' to select a next speaker (Lerner 2003) or as a means to secure the gaze of a recipient that initially does not gaze back at the incipient speaker (Goodwin 1981); see also Stivers & Rossano's (2010) work on gaze as a resource for response mobilization as well as Stivers et al. (2009), who present cross-linguistic evidence that speaker gaze speeds up response. In a recent analysis, Auer (forthcoming) proposed a distinction between gaze performing a regulatory function for *addressee* selection and one for *next-speaker* selection, arguing that "[t]he addressed participant is not always the one selected as next speaker; particularly in multi-party conversation it is often the case that more than one (often all) participants are addressed by a present speaker but only one is selected/suggested as the next speaker by gaze" (Auer forthcoming). The *monitoring*

function is at stake when the speaker gazes at the recipient to 'check' on their level of attendance, facial displays, or signs suggesting a wish to take over the speaking turn (e.g., Heath 1984). Gaze performs an *expressive* function when it is used to moderate the level of arousal and emotionality in interaction. Intriguingly, in the present analysis, the expressive function also "concerns the speaker's need for affiliation, as mutual gaze appears to increase in affiliative and cooperative interactions" (Kendrick & Holler 2017: 2). Kendon's expressive function has seen intriguing specifications in recent research. Kendrick & Holler (2017: 15) proposed "that gaze direction serves as a resource for the construction of affiliative and disaffiliative actions in conversation". Specifically, they showed that respondents' gazes at questioners were overwhelmingly produced with gaze aversion when the response was dispreferred. Haddington (2006: 281) found that "gaze and assessments can be seen to function together as resources for interactional stance taking" and observed the co-occurrence of gaze and convergent stances in assessment sequences.

Changes in gaze direction have long been at the center of attention in gaze research. However, most of this research has dealt with gaze-directional change in *dyadic* interaction. The functions of changes in gaze direction in multi-party conversations, by contrast, have remained underresearched. The focus on gaze in dyadic interaction is understandable given the dyadic nature of gaze: you can only look at one co-participant at a time. This intrinsic dyadicity of gaze, combined with the fundamentally dyadic structure of conversation, which is "built for two" (Stivers 2015), has serious interactional consequences: it poses the danger of marginalization, dissolution, and schism. As Auer (2018) notes:

> "in a three-party constellation, one of the participants is in danger of being marginalized. The marginalized conversationalist may then withdraw from the currently active dyad by gaze aversion, signalling that s/he is no longer participating, and in an extreme case may become a bystander. If this pattern were dominant, multi-party interaction would be in permanent danger of dissolving into two-party interaction (as indeed argued by Stivers 2015 and implied by Sacks, Schegloff & Jefferson 1974: 712, who talk about a "last-as-next" bias in conversation). However, this is clearly not what we find. In fact, there is evidence that participants systematically employ practices to avoid schisms or marginalizations of speakers" (Auer 2018: 207).

One such gaze-based practice to avoid exclusion and achieve inclusion is "to select *all* co-participants as addressees by looking at them alternatingly" (Auer 2018: 207). This paper is centrally concerned with this practice. We refer to the practice as alternating gaze. This type of gaze behavior has to our knowledge not received sufficient attention; to the best of our knowledge, it has so far only been discussed in Auer (2018). Its functions and sequential loci have consequently not yet been established in sufficient detail. The overarching goal of the present investigation is to correct this neglect.

We investigate alternating gaze in multi-party storytelling. Specifically, we focus on alternating gaze by the storyteller in three-party storytelling sequences.

We base our investigation on the following premises:

(i) Storytelling constitutes an unusually extended activity: "stories take more than an utterance to produce" (Sacks 1992: 223), and are "built from many turn-constructional units" (Goodwin & Heritage 1990: 299).

(ii) Storytelling is a structured activity: "a story is not, in principle, a block of talk" (Jefferson 1978: 245); rather, certain "larger structures of talk" (Goodwin 1984: 241) can be distinguished; in storytelling, these 'larger structures' are the story's 'segments' (Jefferson 1978) or 'components' (Goodwin 1984) including Preface, Background, and Climax as well as Post-completion sequences.

(iii) Storytelling is centered around stance: it constitutes "an activity that both takes a stance toward what is being reported and makes the taking of a stance by the recipient relevant" (Stivers 2008: 32). While tellers typically make their stance available at early stages in the storytelling process (e.g., in the Preface), stance taking is relevant for recipients at story completion; more specifically, a display of the stance taken by recipients is relevant at, or after, the story's Climax. Story recipients have a range of options available for what stance to take. For example, in his discussion of a 'dirty joke', Sacks (1974) cites three response options available

> for recipients at the punchline: immediate laughter, delayed laughter, and silence. As is obvious from the joke genre, where immediate laughter is undoubtedly the preferred option, stance taking by story recipients is preference-organized. Stivers argues that "the preferred response to a storytelling is the provision of a stance toward the telling that *mirrors the stance* that the teller conveys having (often in the story preface) whether that is funny, sad, fabulous, or strange" (Stivers 2008: 33; added emphasis).

Premise (i), that storytelling represents an extended multi-unit activity, entails that if multi-party interaction harbors the danger of marginalization, the extended duration of the activity exponentiates that danger. We therefore propose hypothesis (i) that, in order to avoid exclusion and achieve inclusion, the storyteller in multi-party storytelling deploys alternating gaze *not only* when the addressee status between the recipients is symmetrical with both recipients being equally addressed recipients *but also* when the addressee status is asymmetrical with one recipient the primary addressee and the other the secondary addressee. We refer to this hypothesis as the 'addressee-status hypothesis.'

Premise (ii), that storytelling is a structured activity progressing from Preface to Background to Climax, entails that the storyteller makes it her business to 'texture' (Goodwin 1984) storytellings in such a way as to aid story recipients with the task of distinguishing the distinct story segments "in terms of the alternative possibilities for action they invoke" (Goodwin 1984: 243). We therefore hypothesize that the storyteller's gaze will serve as a texturing device by shifting between participants when the storytelling progresses from one segment to another. We refer to this hypothesis as the 'texturing hypothesis.'

Premise (iii), that storytelling has as its goal that story recipients 'mirror' the storyteller's stance, entails that the storyteller works to recruit all story recipients, regardless of participant status, for stance affiliation at or around the Climax. We therefore hypothesize that the storyteller's gaze alternation will accelerate at story Climax and decelerate in Post-completion sequences. We refer to this hypothesis as the 'acceleration hypothesis.'

In the following section, Section 2, we outline the data and methods used before we report the results of our examinations of the three hypotheses in Section 3. The results will be discussed in Section 4. Section 5 serves to draw conclusions and sketch avenues for further research.

2 Data and methods

The study is a pilot study based on a 29.5-minute video-recording of a conversation between three participants. The study is thus a single-case study. The results gained from examining the case need to be seen as preliminary: their generalizability, or lack thereof, needs yet to be ascertained in larger and more diverse data sets. While the video-recording is limited to half an hour, the size of the *gaze* data is considerable, consisting of thousands of gaze observations; moreover gaze is examined with respect to other elements, such as speaker role (teller, recipient) as well as activity type (storytelling) and activity 'chapters' (story components), adding complexity to size. To manage this rich data, we use what we believe is an innovative methodology, the XML method, which we will explain further below.

2.1 Participants

The participants are three young adults: Ric, Sandra, and Lio, aged between 18 and 27 years. Ric and Lio are brothers, Sandra is a childhood friend of theirs whom they haven't seen in a long time. Sandra is a native Croatian who spent a couple of years in Germany before she and her family obtained a green card to the U.S. All three participants are non-native speakers of English; while Sandra obtained the U.S. citizenship and lives in the U.S., the brothers are German and live in Germany. The entire conversation was held in English, the 'lingua franca' among the three participants.

2.2 Recording

The character of a pilot study is also reflected in the recording methodology lacking the sophistication of, for example, multi-camera and/or eye-tracking facilities. The interaction was recorded using a single camera. The seating arrangement for the three co-participants was an equilateral triangle, with Sandra sitting at the triangle's apex. The camera was mounted directly opposite Sandra thus allowing a frontal view of her gaze behavior. While the two brothers were

seated opposite each other and were thus captured by the camera only sideways, reading their gaze behavior was without difficulty. That said, the only storytellings in the data were by Sandra, whose gazes could be read perfectly.

2.3 Transcription and data selection

The 29.5-minute interaction was first transcribed in its entirety in Word using Jeffersonian transcription. Given our focus on alternating gaze in *storytelling sequences*, the transcript was scoured for such sequences. Altogether five storytelling sequences were identified based on the presence of an ideally maximal combination of criteria that we take as defining of storytelling activities. These criteria include: (i) shifts in body posture (Rossano 2012) by both storyteller and recipients, (ii) averted gaze by storyteller (Auer 2018), (iii) person and place references (Dingemanse et al. 2017) by storyteller, (iv) shifting from present tense to past tense (Rossano 2012, Author 2013)—all at sequence openings. The criteria used further involved (v) the suspension of ordinary turn-taking in favor of turn-taking heavily in favor of the storyteller in terms of turn order, turn size, and turn distribution (Sacks 1992, Author 2013, 2015) facilitating the storyteller's 'control' of "a third slot in talk, from a first" (Sacks 1992: 18), a pattern referred to as the 'N-notN-N pattern' (Author 2015), (vi) the concomitant reduction of story recipients' contributions to producing continuers (Schegloff 1982) acknowledging the "structural asymmetry" (Stivers 2008: 34) of the telling sequence and, closer to the story highpoint, affiliative tokens (Stivers 2008) mirroring the storyteller's stance toward the events (Stivers 2008: 33), (vii) the Labovian a-then-b event structure (Labov 1972, Labov & Waletzky 1967/1997), (viii) the sequential organization of talk "in larger structures" (Goodwin 1984) including Preface, Background, and Climax, (ix) heightened occurrence of constructed dialog (Labov 1972, Mayes 1990, Holt 2000), as well as (x) sequence-final pausing (Author 2012), aversion of mutual gaze (Auer 2018), and sequence-recompletion (Hoey 2017).

The three co-participants' gaze behavior in the five sequential contexts identified was analyzed in ELAN (Wittenburg et al. 2006) and incorporated in the transcript adopting the following conventions. In line with Goodwin (1984), we used (lower-case) x to mark the arrival of gaze at a participant and marked gaze above the utterance, in as close alignment with the utterance as permitted by the layout. Departing from Goodwin, the initial following x specifies the gazed-at participant and the decimal number following the initial indicates the time (measured in seconds) the gaze rests with that participant. Also, unlike Goodwin, we did not use a solid line to indicate the duration of the gaze to that participant. We also departed from Goodwin's practice of indicating gaze shift through a dashed line, for the practical reason that gaze shifts were mostly so short that there wasn't any space for the dashes in the transcript. Gaze shifts are indicated by x immediately followed by the duration of the shift. Further, arrows mark gazes directed upward (↑), downward (↓) and to the side (→); the sideways gaze is defined here as any gaze that is not upward or downward and not directed at any one participant. Finally, a special (and extremely rare) case is what could be called the 'absent gaze' when the speaker closes their eyes for a period longer than for an eye blink; this 'non-gaze' is indicated in the transcript by a minus sign preceding x followed by the duration of the absence of gaze. Thus, altogether we defined and annotated, beside gaze shifts, six gaze fixations: two for the two story recipients, and four for non-participant-directed gaze. The stills in Figures 1-7 along with the corresponding parts of textual and gaze annotations represent the first few lines of the "Virginia Tech" storytelling (for the full transcript see Section 3.2.1.1); they illustrate a good number of the gaze annotation types in the multi-modal transcript:

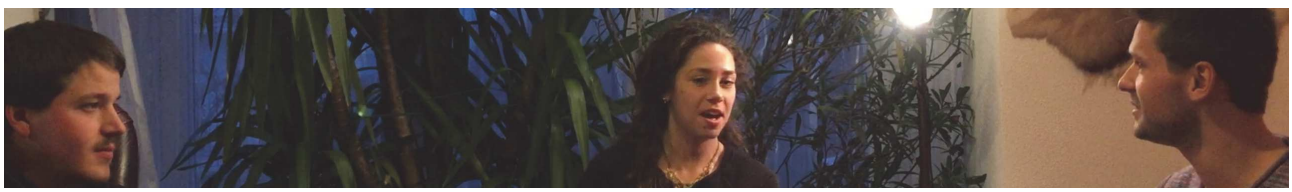

Figure 1: Still 1 x0.1 x↓0.4 x0.1

uhm well

Figure 2: Still 2 xL1.3
when we came back (0.3)

Figure 3: Still 3 x→1.3 x0.1
(0.3) u::hm (0.2) the

Figure 4: Still 4 xR1.1
day after I arrived

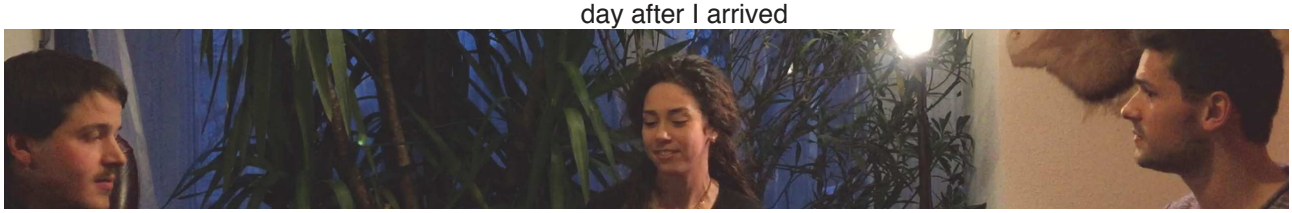

Figure 5: Still 5 x↓0.3
(0.6)

Figure 6: Still 6 xR1.6
uhm his best friend was getting married,

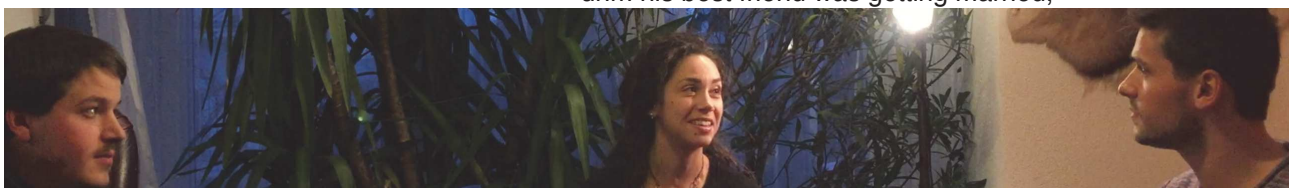

Figure 7: Still 7 x0.3 xL1.5
and he was [his best] man,

In Figure 1, Sandra's gaze shifts before it reaches a downward fixation held for 0.4 seconds (indicated by x↓0.4). Then, as shown in Figure 2, Sandra's gaze shifts again and arrives at Lio, where it is fixated for 1.4 seconds (marked by xL1.4). Next it shifts to a sideways position, shown in Figure 3; this fixation occurs during a hesitation phase ("(0.3) u::hm (0.2)") and is maintained for 1.3 seconds (x→1.3). Next, Sandra's gaze shifts again before she fixates it, as shown in Figure 4, on Ric for 1.1 seconds (xR1.1). In Figure 5, she gazes downward for 0.3 seconds (x↓0.3) and, in Figure 6, returns her gaze to Ric for 1.6 seconds (xR1.6). In Figure 7, finally, her gaze shifts for 0.3 seconds from Ric to Lio (x0.3) and remains there for 1.5 seconds (xL1.5).

2.4 The XML method

The next step in the analysis was to use 'the XML method' (cf. Rühlemann & Gee 2017), a trio of technologies including the (i) eXtensible Mark-up Language XML, a network structure for data and meta-data (cf. Hardie 2014), (ii) XPath and XQuery (Author 2015), two programming languages to search XML databases and extract data from them, and (iii) XTranscript, an online tool developed in the Research and Development Unit for English Studies (RDUES) at Birmingham City University. XTranscript automatically converts CA transcripts into the XML format, a machine-readable format that has established itself world-wide (DFG Handreichung: 7). The hallmark of the XML syntax are both its high degree of adaptability allowing any item of interest to be integrated into the XML architecture and its connectability where any node, regardless of its location, is related at some level to any other node (cf. Rühlemann & Gee 2017). The connectability pays methodological dividends in that it facilitates the combination of multiple heterogeneous nodes. The XML method thus represents one major method implementing what has recently been termed the 'combinatorial approach' (Haugh & Musgrave 2019) to searching transcripts for practices of action. This approach promises to overcome "a practical challenge researchers face when attempting to build collections for analysis, namely, how to identify examples of a practice across relatively large tracts of data" (Haugh & Musgrave 2019: 289) and it enables seemless integration of quantitative and qualitative analyses. Given its machine-readability, XML is also perfectly suited for querying not only 'large tracts of data' but, indeed, 'big data'.

Additionally, XTranscript is capable of processing gaze annotation in the format detailed above and offers a Part-of-Speech (PoS)-tagging option.

Further, we augmented the XML transcript of the recording to account for the occurrence of alternating gaze in *storytelling sequences*. Once storytellings were identified in the transcript, we manually added to the <u> elements (representing the utterances in the storytelling sequence) a 'story' attribute and a story title as its value. Thus, the XML architecture built around the key components of the (putative) practice of alternating gaze in storytelling enabled us to search for and analyze tokens of the practice exhaustively.

The video-recording featured five sequences that were clearly identifiable as storytellings; as noted, all five stories were told by Sandra. The present analysis is based on examination of all five storytellings with a focus on the storyteller's gaze behavior. Examining in detail the *recipients'* gaze behavior (cf., for example, Heath [1984], Goodwin [1984], Bavelas [2000], Aoki [2011]) and the ways in which it may interact with the teller's behavior was beyond our aims. We believe that this neglect is justifiable on the grounds that the two recipients' gazing during the storytellings exhibits little variation: gaze fixations are very overwhelmingly and with great constancy on the storyteller. It is, then, largely uni-directional. For example, as can be gleaned from Table 1, in "Virginia Tech", Lio and Ric gaze at Sandra 78% and, respectively, 85% of the time, with some gazes fixated on her for considerable lengths; for example, the longest uninterrupted gaze by Ric to Sandra is 14 seconds (not shown in Table 1). Given the uni-directionality, we will assume—for present purposes—that Sandra's (multi-directional) gaze behavior is largely independent of the recipients' (uni-directional) gaze behavior. This assumption will need to be critically assessed in future research based on larger data sets.

Table 1: Durations of recipients' gaze fixations during "Virginia Tech"

Virginia Tech	Gaze to San	Gaze to Lio	Gaze to Ric	Gaze shift	Gaze up	Gaze down	Gaze to side	total
Lio	41.2	-	2.3	1.2	NA	8.2	NA	52.9
Ric	45.1	4.4	-	1.2	NA	3.1	NA	52.8

2.5 Approaching the hypotheses

To approach the above hypotheses (cf. Introduction) we used both qualitative and quantitative methods.

2.5.1 Operationalizing the addressee-status hypothesis

The addressee-status hypothesis holds that the storyteller in multi-party storytelling deploys alternating gaze *not only* when both recipents are equally addressed recipients *but also* when their addressee statuses are unequal, with one recipient the primary and the other the secondary addressee.

To test this hypothesis qualitatively, we determined the recipients' addressee status for each storytelling by carefully analyzing the five storytelling sequences based on sequential structure and/or epistemic symmetry or asymmetry. Quantitatively, taking into account the results of the qualitative analysis of addressee status, we computed the amount of time the storyteller gazed at either of the two story recipients by adding up the durations of the storyteller's gazes toward each recipient and calculating proportions of gaze-fixation time for each recipient depending on their addressee status.

2.5.2 Operationalizing the texturing hypothesis

Testing the 'texturing hypothesis' too required a combination of qualitative and quantitative analyses. The qualitative task was to distinguish story components in the storytellings. Story segments were distinguished based on the following criteria.

Story prefaces, if present, were identified based on Sacks' (1992: 225-228) analysis of story prefaces as multi-job utterances functioning to (i) indicate that an extended multi-unit sequence is to follow, (ii) request the right to such a sequence as well as the concomitant "suspension of the ordinary [turn-taking] procedures for the duration of the story" (Goodwin and Heritage 1990: 297; cf. Sacks 1992 Vol. II: 530), (iii) make "a promise of interestingness" (Sacks 1992: 226) in listening to that sequence, (iv) give "information about what it will take for the story to be over" (Sacks 1992: 228) typically by conveying the storyteller's stance toward the events to be reported (Stivers 2008; Stivers 2013) thereby telling recipients "what type of response will be appropriate at the story's completion" (Goodwin & Heritage 1990: 299; cf. also Stivers 2008).

Story backgrounds were identified based on increased occurrences of (i) 'free clauses', that is, clauses without a temporal juncture (Labov 1972: 360; Labov & Waletzky 1967/1997: 27) often marked syntactically by being dependent clauses and/or containing past progressive verb forms (Labov 1972: 364) (ii) intra-speaker gaps not taken as opportunities for co-participants to self-select thereby exhibiting their orientation to the unfolding of the storytelling activity-in-progress, and (iii) exophoric references to locations, characters, and time points together indexing the discourse to some displaced situation outside of the interactional and discoursal here-and-now (e.g., Dingemanse et al. 2017, Labov 1972: 364 ff., Labov & Waletzky 1967/1997: 27).

Story climaxes were identified based on increased occurrences of (i) 'narrative clauses', that is, clauses bracketed by a temporal juncture (Labov 1972: 361, Labov & Waletzky 1967/1997: 27-28) often marked syntactically by being independent clauses and containing simple past and simple present verb forms (Labov 1972: 364), (ii) intensified use of 'stance devices' (Stivers 2008; cf. Labov's [1972] 'evaluative devices') such as, most prominently, constructed dialog (Labov 1972, Longacre 1983, Li 1986, Mayes 1990, Holt 2000, Clift & Holt 2007) often co-occurring with storyteller's gaze aversion (Sidnell 2006), (iii) increased production by story recipients of high-involvement (affiliative) response tokens (Stivers 2008) including laughter (Mandelbaum 2013: 499, Author 2017) and non-minimal response tokens (McCarthy 2003), and finally (iv) increased levels of storyteller's multimodal behavior (Blackwell et al. 2015; Stec et al. 2016).

As is well-known, stories are sequentially implicative talk; that is, stories "serve as a source for triggered or topically coherent talk and thus propose the appropriateness of [their] having been told" (Jefferson 1978: 228). Such triggered or topically coherent talk routinely takes the form of loosely associated "postscripts and commentaries" (Jefferson 1978: 229) and more generally falls under the rubric of 'post-sequence musings'. Such musings are constituted by utterances "which

have the status of being demonstrably related in some way to the preceding talk, but which at the same time do not appear to be treated as an expansion of the sequence" (Liddicoat 2007: 163; cf. Schegloff 2007: 142 ff.). Given their intrinsic relation to the storytelling, the post-story musings are also taken into account in the analyses of story components.

The quantitative analysis carried out to approach the 'texturing-hypothesis' is based on the binomial distribution, a measure of the probability of a success-failure outcome (cf. Gries 2009: 41 ff.). This method is warranted by the fact that the storyteller can, in principle, alternate their gaze between the co-participants anywhere in the course of the storytelling, regardless of position in the talk, that is, be it at a component boundary or within a component. (And, in fact, as will be seen from the examples discussed, gaze alternation does occur within components.) Thus, in principle, the gaze alternation at component transition could be simply due to chance. The binomial distribution serves to establish whether the coincidence of segment transition and gaze-directional alternation from one co-participant to the other is due to chance or due to the arrival of the telling at the segment transition. The computation involves three elements:

(i) the frequency of an event; the event in question here is the match of a gaze transition from one story recipient to the other story recipient (without any intervening gaze fixations up, down, or sideways) exactly at the transition from one story component to another story component
(ii) the number of trials in which the event could occur; in this case, the total number of segment transitions where the teller's gaze fixates a co-participant immediately before the transition, and
(iii) the probability of the event in each trial; that is, if the teller's gaze is fixated on a co-participant right before a segment transition, there are altogether six gaze changes possible: (i) gaze can shift to the other co-participant, (ii) it can shift downward, (ii) upward, (iv) sideways, (v) it can disappear (in the case of eyes closed), and (vi) it can remain on the same co-participant across the component transition. The probability that, at segment transition points, the storyteller's gaze shifts from one co-participant to the other co-participant is hence 1/6 = 0.17.

To illustrate, in a typical storytelling with Preface, Background, Climax, and Post-completion there are three segment transitions: from Preface to Background, Background to Climax, and Climax to Post-completion. Suppose that the teller's gaze is fixated on a co-participant immediately prior to all three segment transitions but only one segment transition is matched by the teller's gaze changing from one co-participant to the other—that is, the 'event' in question occurs once in three 'trials'. Assuming that the event has a probability of 0.17 and based on the usual significance level of 0.05, the probability that this one match is due to chance is 0.35, far greater than the significance level of 0.05 allows—in which case we must reject the assumption that the match is significant. By contrast, if all three segment transitions are matched by gaze-direction shifts between the two co-participants, the probability is 0.005, which would indicate a significant association.

2.5.3 Operationalizing the acceleration hypothesis

We define acceleration thus: the storyteller's gaze alternation between co-participants accelerates if the durations with which the storyteller's gaze remains fixed on any one co-participant exhibit a downward trend as the storytelling progresses from Preface (if available) via Background to the most tellable event concluding the Climax section. NB: the hypothesized acceleration stops at Climax completion, after which point gaze alternation should *decelerate*. That is, during the Post-completion section the durations of gazes to co-participants should increase again. To capture this two-way scenario, for each storytelling and each story component we plot the durations of Sandra's alternating gazes in scatter plots and calculate a trend (based on a linear regression) for the durations of Sandra's recipient-directed gazes from Preface (if available) or Background up until Climax completion. By contrast, the numbers of alternating gazes in post-Climax position is typically very small; therefore no separate trend is computed and the deceleration (if available) is read off by visually inspecting the scatter plots.

We now move to reporting the results of our examination of the three hypotheses posited above. We start with the 'texturing hypothesis' in Section 3.1. As noted, to test this hypothesis we analyzed the multimodal transcripts of the storytellings.

3 Results

3.1 The addressee-status hypothesis

3.1.1 Addressee-status hypothesis: Qualitative analysis

Two storytellings stand out in that story recipients have unequal addressee status: “Virginia Tech”—cf. (2) below— and “Summer break”—cf. (3) below.

Prior to the “Virginia Tech” storytelling Lio inquires, in line 12, about Sandra’s brother, who Lio and Ric know has had social difficulties for a long time. Sandra’s answer, in line 16, performs the action of an assessment suggesting that his difficulties have improved (“well he's actually becoming ever more social which is nice,”). Immediately following this straightforward assessment Sandra adds a qualified description in line 20 “[uhm-] not socialist social social but- (0.7) =new friends and [stuff,]”. The qualification is difficult to parse for Lio and is subsequently treated as a trouble source in line 24 with “[w' w'] what d'you mean by that¿”. At this point Sandra launches an extended storytelling in response to Lio’s request for clarification. The story is thus interactively occasioned as an extended repair sequence elicited by Lio’s repair initiation and launched by Sandra as a repair solution (cf. Dingemanse et al. 2015). In that the storytelling serves to provide the clarification sought by him, Lio can be seen as the primary addressed recipient of the story. Granted, Ric too must be seen as an addressed participant given his equal epistemic basis (he knows Sandra’s brother equally well as Lio does). On the other hand, it was Lio’s action (his request for clarification) that prompted Sandra to tell the story. Ric therefore qualifies as a secondary addressed participant. (Lio’s primary addressee status can also be read off the fact that, as shown in Table 1 above, the amount of time Ric gazes at Lio in “Virginia Tech” is almost twice the amount of time that Lio gazes at Ric; Ric’s gazing thus clearly displays an orientation to the uneven addressee status between the two.)

In “Summer break”, the participation framework is the inverse. This story is a generalized experience story, concerned with the negative effects of a long summer break on memory and motivation to work for university. The storytelling is specifically addressed toward Ric who Sandra knows has a history of lacking motivation for academic work. The participational framework in this storytelling has Ric as the primary addressed recipient and Lio as the secondary addressed recipient.

The remaining three storytellings are addressed to both recipients equally. In “Funny dog” (3), Sandra relates the content of a video on Facebook featuring a dog begging his owner for forgiveness. The story is occasioned by the appearance of Lucky, the brothers’ dog. The storytelling thus originates in an ‘object’ that falls into the responsibility of both brothers and that is spatio-temporally shared by all interactants at the moment at which the storytelling occurs. Thus, both recipients can be seen as equal addressees. In the interaction prior to “Winter sports” (4) the three participants have been talking about winter sport activities. The storytelling is occasioned by an invitation to “organize something we can get together” in line 908. The invitation is addressed to both brothers as shown by the inclusive “we” and the adverb “together”. The ensuing story about Sandra’s girl-friends’ reluctance to do winter sport activities with her is thus addressed to both recipients in equal measures. The last storytelling, “Trays” (5), is the last increment in an extended sequence about doing sports. Sandra is relating how trays from the campus cafeteria were used to slide down hills in winter. “Trays” is clearly told for shared amusement; the two brothers can thus be seen as equally addressed.[1]

3.1.2 Addressee-status hypothesis: Quantitative analysis

To investigate the ‘addressee-status hypothesis’, we computed the amount of time Sandra looks at each of the two recipients per story. The results are given in Table 2 as absolute durations:

Table 2: Gaze-fixation time on recipients per story in absolute durations (sec.); primary addressees shaded grey

Story	Gaze to Lio	Gaze to Ric
Virginia Tech	21.0	10.0
Summer break	4.6	10.7
Funny dog	11.0	6.3
Winter sports	4.3	7.0
Trays	16.7	17.0
totals	*57.6*	*51*

It can be seen from the table that in all five stories taken together, Sandra looks at each interlocutor for a little less than one minute. It also transpires that when Lio and Ric are unequally addressed, the gaze-fixation time for each of them is fairly distinct: for example, in “Virginia Tech”, the primary addressed recipient (Lio) gets looked at 21 seconds, whereas the secondary addressee (Ric) gets just 10 seconds. A similar disproportion holds for “Summer break”, where Ric is the primary addressee. However, we do find unequal amounts of gaze-fixation time for the remaining storytellings too. Therefore it is imperative to compute proportions both for each story and for all five stories together. These are shown in the two panels in Figure 8.

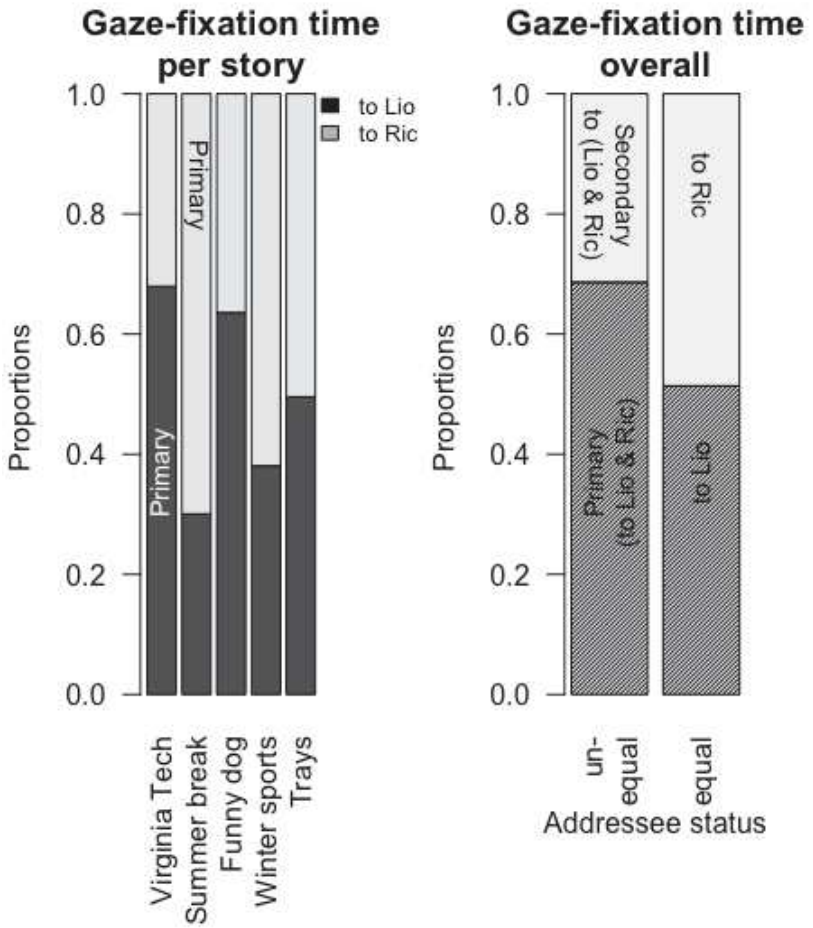

Figure 8: Left panel: Gaze-fixation time per co-participant in proportions per story; right panel: gaze-fixation time in proportions overall

While the bar charts in the left panel show the proportions of time the teller gazes at either participant, the above-mentioned difference in proportion when a recipient is the primary addressed recipient can be seen clearly in the two bars on the far left of the figure.

Consider, by contrast, the stacked bar on the far right of Figure 8, showing the combined proportions of Sandra's gazes to Ric and Lio when the two are equally addressed recipients: the proportions are almost equal, namely 0.514 and 0.486—a difference that seems negligible. As shown in the neighbor bar, the difference in proportion is much bigger when the two recipients have unequal addressee status: the primary addressee gets an 0.686 share, whereas the secondary addressed recipient gets an 0.314 share.

3.2 The texturing hypothesis

3.2.1 Texturing hypothesis: Qualitative analysis

In this section we briefly outline for each of the five storytellings how the sequences were broken up into components. To enhance legibility of the transcripts, component boundaries are indicated; and gaze annotations are color-coded: blue for teller's, grey for recipients' gazes.

3.2.1.1 "Virginia Tech"

As noted, Sandra is telling the "Virginia Tech" story in response to Lio's request for clarification. The story is thus interactively occasioned as an extended repair sequence, elicited by Lio's repair initiation and launched by Sandra as a repair solution (cf. Dingemanse et al. 2015). Following the interactive occasioning sequence, Sandra goes into the details of the lengthy Background stretching. She then reaches the Climax section, as manifested in heightened occurrence of Goodwinean (1984: 227) 'texturing' devices, including the pitch rise and the sound stretch on "↑gi:::rl↑" in line 70, a rare instance of a short upward-directed gaze and the even rarer instance of a 2.2 second absent gaze in line 71, the between-speech laughter "heh heh heh" as well as the constructed dialog articulated with elongation and within-speech laughter "i(h)t wa(h)s li(h)ke(h) (plea:::se)" in line 72. The Post-completion sequence begins in Sandra's assessment "[(so it's nice)]" in line 76, almost a word-by-word repetition of her initial assessment prior to the storytelling in line 4. Further, the Post-completion sequence topically connects to the girl Sandra's brother met. It is initiated by Lio's question in line 79, partly in overlap with Sandra's assessment, "[( ) di]chu approve?" prompting her to provide an upgraded assessment in two stages: the first, "she's go:rgeous she's] ( ) gorgeous", positively evaluates the girl her brother met; the second, "but yuh so (0.5) he's doing well (0.2) besides that", returns to the positive assessment of her brother that initiated the whole sequence.

(1) "Virginia Tech"

1	Lio:	[uh] how's your brothe, (1.0)
2	Sx:	x0.1 x↓4.3
3	San:	he's o:kay. (0.2) he's doing better. (0.2) but- (0.9)
4	Sx:	x0.1 xL1.2
4	San:	well he's actually becoming ever more social which is nice, (0.3)
5	Lio:	[mhm,]
6	Sx:	x0.1 x↓1.6 x0.1 xL2.3
7	San:	[uhm-] not socialist social social but- (0.7)
8	Lio:	eh heh huh=
9	San:	=new friends and [stuff,]
10	Lx:	xS1.5
11	Lio:	[w' w'] what d'you mean by that¿
……		((Background))……..
12	Rx:	xS6.4
13	Lx:	xS3.3

```
14  Sx:   x0.1 x↓0.4 x0.1 xL1.3                x0.1  x→1.3     x0.1
15  San:  uhm  well        when we came back (0.3) u::hm (0.2) the
16  Lx:   x0.1  xR0.6  x0.1  xS13.1
17  Sx:   xR1.1            x↓0.3  xR1.6
18        day after I arrived (0.6) uhm his best friend was getting married,
19  Rx:     x0.1 xL0.5 x0.1 xS14.3
20  Sx:       x0.3 xL1.8
21        and he was [his best] man,
22  Lx:              xS1.6
23  Lio:             [hm     ] (0.9) uh yuh
24  Sx:          x0.1 x↓1.6          x0.1 xL3.4
25  San:  so       of course that was entire- I mean people from (0.2)
26        back from college from when he knew them?
27  Lx:   xS0.3
28  Lio:  mhm
29  Sx:   x↓0.5   xL1.8
30  San:  uhm  (.) that's his best friend from college actually
31  Lx:   xS0.3
32  Lio:  [mhm]
33  Lx:   x0.1 x↓0.8
……..((Climax))……
3   Sx    x0.2  xR1.9
35  San:  [so ] when the (0.4)
36  Lx:           x0.1  xR1.5                  x0.2  xS3.7
37  Sx:                                x0.1 x↓1.0  x0.1 xR0.7
38        when the wedding was going on (0.5) the guy invited
39  Rx:                          Rx0.1 RxL0.6 Rx0.1 RxS3.2
40  Sx:   x0.2 xL2.9
41        ev'  rybody who they knew (0.4) from back in college
42        [which]
43  Lx:   xS0.3  x↓0.1
44  Lio:  [mm   ]
45  Lx:   x↓0.6            x0.1   xS0.2   x↓0.2   xS2.7
46  Rx:                          x0.1 xL0.9     x0.1
47  Sx:   x0.3  xR1.2            x0.3 xL0.8       x0.6
48  San:  means people were coming from Germany, fro::m
49  Lx:                                                x↓1.5
50  Rx:   xS5.3
51  Sx:   xL0.7     x0.2  xR0.6   x0.1  x↓2.9
52        Croatia, from   Serbia, from- I mean like there were two three
53  Lx:           x0.1 xS1.8
54  Rx:                                                    x0.1 xL0.8
55  Sx:                  x0.1 xL1.7
56        tables (0.3) just reserved for Virginia Tech (0.3) people
57  Rx:           x0.1 xS11.7
58  Lx:   xS1.0
59  Lio:  gorgeous (0.4)
60  Ric:  [     'h     'h     'h     ]
61  Lx:   xR0.2 xS3.5
62  Sx:   x0.3  xR0.7          x0.1 x↓0.9        x0.1    xL2.0
63  San:  [that was awesome] so that was really cool so he finally
64        reconnected with all of those
65        peop[ le  ]
66  Lx:     xS0.3
67  Lio:      [mhm]
```

68 Lx: x↓1.9 x0.3 xS6.9
69 Sx: x0.5 xR1.2 x→0.5 x0.1 xL0.5
70 San: met some other ones through that (0.4) met some ↑gi:::rl↑
71 Sx: x0.1 x↑0.4 -x2.2((eyes closed)) x0.1
72 (0.4) a:nd heh heh heh i(h)t wa(h)s li(h)ke(h) (plea:::se)
73 Rx: x0.1 xL1.6
74 Sx: xL2.4
75 'h 'h heh when something happened yeah
……((Post-completion))…….
76 Sx: xL0.4
77 [(so it's nice)]
78 Rx: x0.1 xS2.5
79 Lx: xS1.6
80 Lio: [( ) di]chu approve? (0.3)
81 [hih huh huh 'h h'm h'm h'm h'm h'm h'm h'm h'm h'm]
82 Rx: x0.1 x↓2.7
83 Sx: x0.5 xR1.0 x0.1 xL0.5 x0.1 x↓3.9
84 San: [((nods)) [I very much appro:::ved] she's go:rgeous she's]
85 Lx: x↓3.1
86 Rx: x0.1 xS1.7
87 ( ) gorgeous. (0.2) but yuh so (0.5)
88 he's doing well
89 Lx: x0.1 xS0.6
90 Rx: x0.1 x↓0.4
91 Sx: x0.1 xL1.0
92 (0.2) besides that

3.2.1.2 “Funny dog”

The storytelling “Funny dog” is occasioned by the appearance of the brothers’ golden-retriever dog in line 2, ‘triggering’ (cf. Jefferson 1978: 220) Sandra’s memory of a dog video she saw on Facebook. In lines 5-10, Sandra provides a lengthy Preface summarizing the main content of the dog video. Then, in lines 11-19, she develops the Background by providing the details of the dog’s interaction with his owner including an extended instance of constructed dialog animating the owner’s refusal to forgive the dog (“no no you're not sorry and I won't accept that and that's not enough”). In line 20, Sandra moves into Climax by elaborately re-enacting the dog’s begging for forgiveness using her hands to imitate the dog’s pressing his forehead against the owner’s chest. Finally, in the Post-completion sequence in lines 23-28, we find an explicit assessment by Sandra of the video (“oh you have to see that it's [amazing]”) to which both interlocutors respond, in overlap with the assessment’s key element “amazing”, by laughter (Lio) and, respectively, a smile (Ric), two forms of affiliation (cf. Stivers 2008).

“Funny dog”

1 Sx: x0.1 xR1.4 x0.1 x→2.9
2 San: [£↑A::::↑£] 'heh 'h ((to dog))
3 Rx: x0.2 xS24.1
4 Lx: x0.2 xS24.5
……((Preface))……..……..
5 Sx: x0.1 xR1.4 x0.2 xL2.7
6 oh have you guys seen the ( ) on video on on facebook where the guy like speaks
7 Sx: x0.1 xR0.7 x0.2 xL0.2 x0.1 x→1.4 x0.1 xR0.8 x0.1 x→0.3
8 to the dog in in italian and he is he wants to (0.4) gai:n some kind of I guess
9 Sx: x0.1 xL2.9

10 he wants to say that I'm that he's sorry¿ (0.3)
……((Background))……..……..
11 Sx: x0.2 xR0.4
12 and the (guy/guide) keeps like telling him
13 Sx: x0.1 x↓0.4 x0.1 xR0.5 x0.3 xL2.1
14 no no you're not sorry and I won't accept that and that's not enough (0.4)
15 Sx: x0.2 xR0.4 x0.1 x↓0.5 x0.1 xR0.6 x0.4 xL1.0 x0.1
16 and the dug keeps- th' the dog keeps asking for his (0.7) you know,
17 Lio: yuh.
18 Sx: x→0.3 xL0.3 x0.2 xR0.9 x0.3
19 San: for him to (0.3) to forgive him
……..…((Climax))……..……..
20 Sx: xL1.4 x0.1 x→0.2
21 San: and [he gets] up to him and he's like (0.2)
((using both hands Sandra imitates dog pressing his forehead to his master's chest asking for forgiveness))
22 Lx: x0.2
……((Post-completion)……..……..
23 Sx: x→0.3 x0.1 xR0.6 x0.2 xL0.4
24 San: oh you have to see that it's [ama::zing]
25 Lx: xDog1.1
26 Lio: [eh heh heh heh] 'h (0.3) h'm
27 Rx: x↓0.4
28 Ric: [((smiles))]

3.2.1.3 "Summer break"

The storytelling is occasioned by Sandra advising Ric in lines 2-4: "don't ev]er take that long of a break." The advice implicates a critical assessment of taking long summer breaks. Sandra justifies the assessment by proposing a 'conversational claim' (Ochs & Capps 2001: 39, cf. also Ervin-Tripp & Küntay 1997: 141)): "then you stop then you forget what it's like to work(h)" before adding in line 6 "[because that's] the most difficult 'h." The interactional task for the storytelling is two-fold: to support the claim and make the recipients affiliate with the assessment. Several design features clearly mark her continuation as the beginning of the Background section (cf. Rossano 2013). These features include Sandra's use of a temporal subclause introduced by 'when' in line 12, which not only initiates a time-deictic re-focus towards the past but also projects a longer multi-unit turn; the reference to 'we', which is clearly exclusive of Sandra's interlocutors; and the use of the past tense on 'moved', which firmly anchors the reference time in the past. The Background section comes to an end in line 35 with Sandra emphasizing the length of the summer break in America: "like three months at a TI::ME." Then in line 37, the marker "so" is used to signal transition to the Climax. This section is, again, 'textured' in Goodwin's (1984) sense by use of between-speech laughter and smile voice in line 37, and the extended constructed dialog in "£what's studying I don't know how to organize my times£" in line 49. The ensuing laughter by Ric in line 51 provides the affiliation Sandra's telling was intended to achieve. Unlike the storytellings above, the Post-sequence musing following the story is rather loosely associated with the storytelling sequence. Rather than with problems caused by long breaks, Sandra's post-story talk ties back to Ric's school career that was thematical in an earlier section by saying "but that's cool so you, are, (0.2) in grade¿" in line 53.

(3) "Summer break"

1 Sx: xL3.0 x0.2 xR4.6 x0.1 x↓2.0
2 San: [a long break(h) hih hih huh (0.4) 'h don't ev]er take that long of a
3 Lx: x0.1 xR1.1 x0.2 xD0.7 x0.1 xR2.7

4 break then you stop then you forget what it's like to work(h)
5 Lx: x0.2 x↓0.1
6 [because that's] the most difficult 'h
7 Rx: xS0.3 x→0.7
8 Ric: [hm:: heh]
……((Background))……
9 Rx: xS13.7
10 Lx: x0.2 xD0.1 x0.3 xS2.9 x0.2 xD1.3
11 Sx: xR0.2 x0.1 x↓1.2 x0.1 xR0.6 x0.1 x↓0.9 x0.1 xR1.6 x0.1
12 San: when we moved from Germany to to America it was difficult because here you only
13 Lx: x0.2 xS2.7
14 Sx: x↓0.4 x0.1 xR0.4 x0.3 xL1.7
15 ha:ve like what a month¿ month and a half of summer break¿ (0.5)
16 Ric: m[mh]
17 Lx: x0.1 xR0.6
18 Sx: xR2.5
19 San: [right?] (0.3)
20 Rx: xS0.4
21 Ric: y[eah]
22 Lx: xR0.4
23 Lio: [mmh]
24 Lx: x0.2 xD0.7 x0.2
25 Sx: x0.3 xL0.5 x0.3
26 San: [you go]nna forget (0.3) ulzo [(if you're)back] in school
27 Ric: [yeah]
28 Lx: xS0.4
29 Lio: [yeah]
30 Lx: xS0.5 x0.4 xD0.3
31 Lio: yeah (0.3)
32 Rx: xL0.4 xS3.3
33 Lx: xD 0.8 x0.3 xS5.2
34 Sx: x→1.1 x0.1 xL1.5 x0.2 xR0.4 x0.2 xL0.3
35 San: A(h)ND >£then we moved to America there was like three months at a TI::ME
……((Climax))……
36 Sx: x0.1 xR0.3 x↓1.8
37 so after three months you come£ b(h)ack (a(h)fter hoh hoh hoh
38 Rx: x↓0.2
39 Lx: x0.2
40 Sx: xR0.2 x0.2 xL0.2
41 [(h)a(h)ll th(h)is f(h)un y(h)ou're go(h)ing)] 'h<
42 Rx: xS0.8
43 Ric: [h'm h'm]
44 Lx: xS0.8
45 Lio: [h'm h'm]
46 Rx: x↓1.4 xS1.6
47 Lx: x0.2 xS1.3 x0.2 x↓0.1 xD4.5
48 Sx: x0.1 x↓0.9 x0.1 xL0.7 x0.2 xR2.2 x0.1 x↓2.1
49 San: £what's studying I don't know how to organize my times£ (0.2) °[huh huh]° 'h 'h (1.2)
50 Rx: xS0.4 x↓0.5
51 Ric: [hm heh]
……((Post-completion))……
52 Sx: x0.1 xR2.3
53 San: but that's cool so you, are, (0.2) in grade¿ (0.5)

3.2.1.4 "Winter sports"

Sandra suggests in line 2 that the three "organize something" together. In line 7 she gives a reason for that suggestion, "because none of my friends ski or snowboard." This complaint is the 'conversational claim' that the story serves to support (Ervin-Tripp & Küntay 1997: 141). It thus provides the Preface presenting the point of the story in a nutshell. The transition to Background is initiated in line 9 by the marker "so". The short section invokes a typical winter, any winter, making the story a generalized story (Norrick 2000: 151). Then Sandra moves into Climax marked, as so often (e.g., Mayes [1990: 350]; Clift & Holt [2007: 2]), by instances of constructed dialog "I call all the [girls are like] yu:h no:=" (line 11), "↑ice skiing?↑=" (line 16) and "↑got coffee afterwards↑" (line 22). The ensuing laughter shared between all three participants is a perfect instantiation of Schegloff's notion of laughter as a 'choral' activity "NOT to be done serially (…) but simultaneously" (Schegloff 2000: 6). Also note Sandra's addition "£sport guys (0.3) sport£=" in line 34, spoken in smile voice and sarcastic tone, thus prividing a clear display of her mocking stance toward her friends' reluctance to do winter sports with her. Ric's laughter in line 35 mirrors this stance. The short Post-story sequence ties back to the story's starting point, namely Sandra's suggestion to "organize something". Sandra repeats the suggestion in line 37, the suggestion is accepted by Ric with an extended nod in line 38.

(4) "Winter sports"

```
1   Sx    x0.2 xL0.9              x0.2   xR0.6
2   San:  let's organize something we can get together
3   Ric:  ((nods=1.8))
……..((Preface))……..……..……..
4   Lx:   x0.1  xS7.0
5   Rx:   x0.1  xS1.7                                  xL0.4  xS7.4
6   Sx:   x0.1 x→0.4      x0.1  xL1.7
7   San:  because none of my friends ski or snowboard. (0.4)
……..((Background))……..……..……..
8   Sx:   x0.2 xR1.4
9         so as soon like winter season here comes,
……..((Climax))……..……..……..
10  Sx:   x0.1 x→0.8  x0.1 xL1.5    x0.1    x→0.3
11        (0.7) I call all the [girls are like] yu:h no:=
12  Ric:                    [     hm     ]
13        =h'm [heh]
14  Lio:       [heh]
15  Sx:   xL0.6
16  San:  ↑ice skiing?↑=
17  Lio:  =[really?]
18  Ric:    [heh heh heh]
19  Lx:   xR0.1  xS1.4
20  Rx:   xL0.1  xS1.4
21  Sx:   x0.4 xR0.4 x0.1   x→0.6
22  San:  yuh and ↑got coffee afterwards?↑
23  Lio:  ah heh heh [heh heh heh]
24  Lx:                          xR0.4
25  Rx:             xS1.6
26  Sx:             xL0.5        x↓0.3 xR1.0
27  San:              [ah hih hih heh] hoh huh huh=
28  Lio:  =ah heh huh
29  Rx:    x↓0.6
30  Ric:  [heh heh]
31  Lx:   x↓2.0
```

32 Rx: x↓1.3
33 Sx: x↓1.3 xR0.8 ((gaze continues))
34 San: ['hh 'h] £sport guys (0.3) sport£=
35 Ric: =H'm heh heh
……(Post-sequence))……..……..
36 Sx: xR3.0 ((continued))
37 San: °okay, (0.4) we can organize something°
38 Ric: ((nods=0.8))

3.2.1.5 “Trays”

As noted, “Trays” is preceded by a lengthy sequence on doing sports. Right before the storytelling commences, the participants have been talking about using plastic bags instead of sleds during winter. This reminds Sandra of an experience she had as a college student in the U.S. The reminiscence, which is started in German (“£und dann weiß ich”, ‘and then I know’) in line 6, launches the long Background segment providing information on the fact that “colleges in America” (line 8) “are not in a city” (line 11) but instead “[bump]ed up nowhere outside in like a farm” (line 16). That general place-referential frame is narrowed down to “our campus” (line 16), which is described as “very hilly” (line 21), a description which foreshadows the sledding activity central to the story. In line 19, the telling does take a step further (suggesting a move into what Labov [1972] would call the Complication section), evidenced, again, by the transition marker “so”, the dependent “when”-clause, the adverbial phrase “all of a sudden”, the constructed dialog “YE::S£ [EH HIH]” (line 36) depicting the students’ joy at discovering the fun of using the cafeteria trays for sledding. The telling finally arrives at the Climax in “and uh in [one] year there was like hu:ge- (0.2)” in line 46 preparing the ground for the most tellable event, namely the cafeteria staff’s refusal to hand out any more trays, expressed in constructed dialog in lines 54-56: “you guys once took all the trays, and the ones that we still have we don't wanna GIVE [OUT ( )]”. The Post-completion sequence following the Climax does several things: it first provides an explanation of how the story was occasioned “(£that just reminded me£)” in line 65, then proffers a generalized assessment “£that was a good time£” in the same line, and finally, even further removed from the story, some encouraging thoughts on campus life in general (lines 67-68).

(5) “Trays” (Ric’s head is off camera, therefore only Sandra’s and Lio’s gazes are incorporated in the transcript)

……..((Background))……..……..
1 Lx: xBottle0.4
2 Sx: x↓2.3
3 San: ['hh]
4 Lx: xBottle0.7 x0.1 xS0.6 x0.1 xBottle6.9
5 Sx: x0.1 xR1.5 x0.1 x→0.3
6 £und dann weiß ich like in college£ uhm like in America in college (0.4)
7 Sx: x0.1 x↓0.5 x.01 xR2.7
8 >because< of course colleges in America are
9 Lx: x0.1 xS0.5
10 Sx: x0.1 x→0.5 x0.1 xR2.2
11 set up that they are not in the city so they're
12 Lx: x0.1
13 Ric: [hm]
14 Lx: xBottle1.1 x0.1 xR1.3 x0.1 xS0.6 x0.1 xBottle1.3 x0.1
15 Sx: x0.3 xL0.6 x0.2 xR0.7 x0.1 x↓2.8
16 San: [bump]ed up nowhere outside in like a farm (0.4) a:nd there's huge
17 Lx: xS5.5
18 Sx: x0.1 xR0.5 x0.3 xL0.5 x0.1
19 campus so what we used to do when finally d’z snow we had (0.2)

20 Sx: x→0.9 x0.1 xR0.6 x0.1 xL1.2 x0.1
21 we had- (0.5) I mean our campus was very hilly,
22 Lx: xS0.9
23 Lio: mhm (0.6)
24 Lx: x0.1 x↓2.8 x0.1 xS2.7
25 Sx: x↓0.6 x0.1 xL0.8 x0.3 xR1.8 x0.3
26 San: so when finall' d'z snow (0.3) all ov sudden all the trays: (0.7)
27 Sx: xL2.1
28 from the cafeteria disappear
29 Lx: xS0.9
30 Lio: eh heh hih huh ['h]
31 Ric: [h'm]
32 Lx: xS1.3
33 Lio: [h'm huh huh h'm h'm]
34 Lx: xS2.3
35 Sx: xR0.6 x0.2 xL0.7 x0.3 xR1.3 x0.1
36 San: [£MAINLY because] us Europeans are like ↑YE:::S↑£
37 Lx: xS1.9
38 Sx: xL0.4 x0.2 xR0.7 x0.3 xL1.2
39 [EH HIH] AND THEN THE AMERICANS SEE FROM US=
40 Lio: [h'm heh huh]
41 Ric: [heh heh]
42 Lx: xS3.6
43 Sx: x0.1 xR0.8 x0.1
44 San: =and all of a sudden they keep disappearing
……((Climax))……..……..
45 Sx: x↓2.4
46 and (i rememb') [one] year there was like hu:ge- (0.2) uhm all of a
47 Ric: [heh]
48 Lx: xS8.7
49 Sx: x0.1 xL1.2
50 San: sudden they didn't have the trays any more
51 Sx: x0.2 xR1.0
52 they were like sorry you know (0.2)
53 Sx: x0.2 xL1.4
54 you guys once took all the trays,
55 Sx: x0.2 xR0.9 x0.2 xL0.8 x0.2 xR1.7
56 and the ones that we still have we don't wanna GIVE [OUT ( )]
57 Lx: x0.1 xR1.1 x0.1
58: Lio: [heh heh huh (.) ah heh heh huh]
59 Lx: x↓0.3 x0.1
60 Sx: x.01 x→0.3
61 San: ['H]
62 Lx: xR0.3 x0.1 x↓0.1
63 Ric: [eh] heh (0.5)
……((Post-completion))……..……..
64 Sx: x0.1 x↓5.0
65 San: 'hih 'h (£that just reminded me£) (0.4) 'h (0.7) £that was a good time£ (0.9)
66 Sx: x0.1 xL5.8
67 you gonna have a good time in college yuh (0.6) enjoy (0.9)
68 IT's work but it's a lot of fun (0.3)

The componential structure of the storytellings as well as the teller's gaze fixations and gaze durations are depicted in Figure 9:

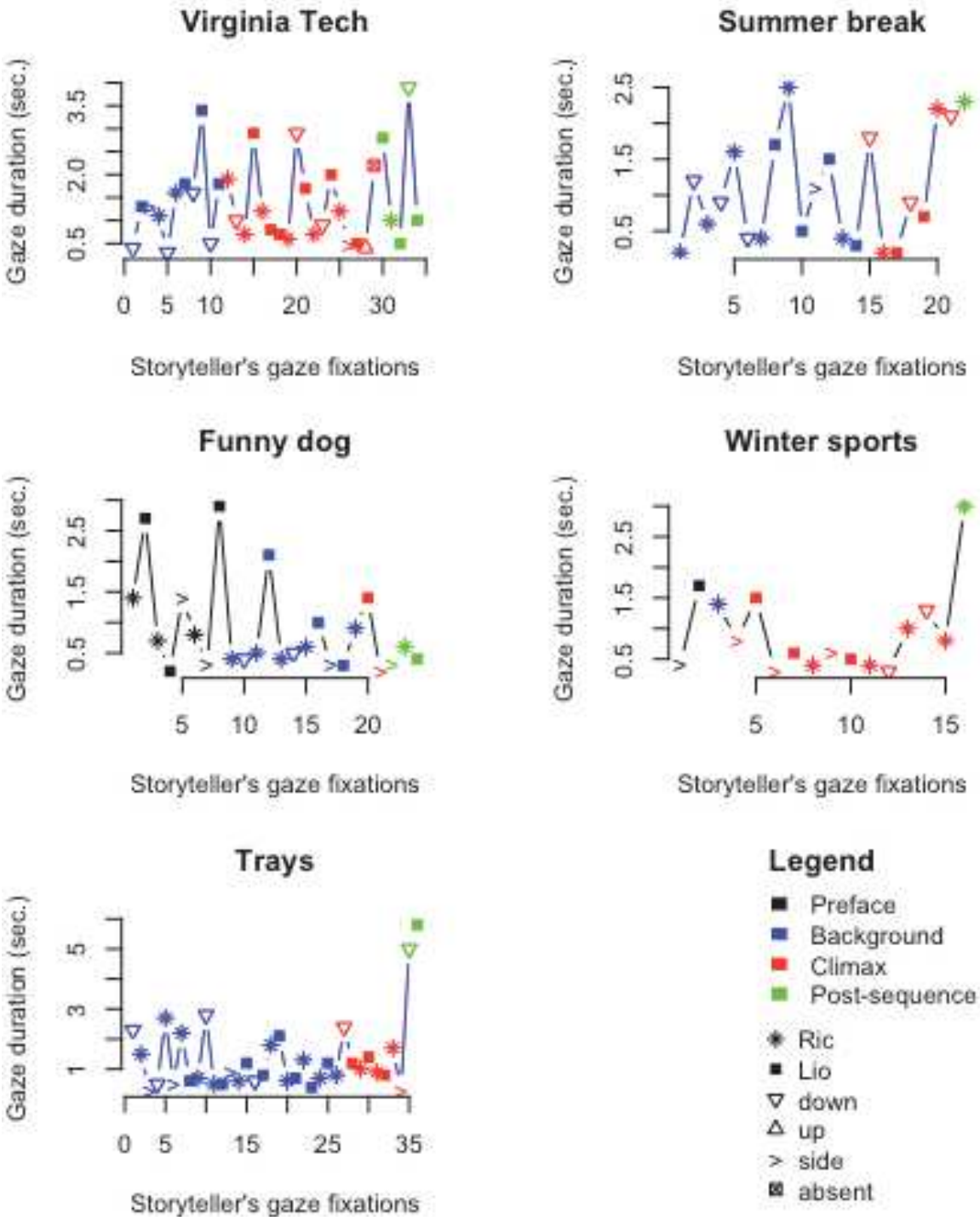

Figure 9: Storyteller's gaze fixations and gaze durations per story components

3.2.1 Texturing hypothesis: Quantitative analysis

The quantitative examination of the texturing hypothesis is based on the above qualitative analyses of the componential structure of the storytellings.

The teller's gaze fixations at component transitions are given in Table 3; recipient-directed gaze alternations *matching component transitions* are in bold-face:

Table 3: Number of alternating gazes at component transitions; Pref: Preface, Bg: Background, Cl: Climax, Post: Post-completion; co-participant gaze alternations matching component transitions are in bold-face.

Story	Pref end	Bg start	Bg end	Cl start	Cl end	Post start	N of component transitions matched by teller's gaze alternation between co-participants	N of component transitions where teller is gazing at a co-participant prior to transition
Virginia Tech	*na*	*na*	**xL**	**xR**	xL	xL (ctd.)	1	2
Summer break	*na*	*na*	**xL**	**xR**	x↓	xR	1	1
Funny dog	**xL**	**xR**	**xR**	**xL**	xL	x→	2	3
Winter sports	**xL**	**xR**	xR	x→	xR	xR (ctd.)	1	3
Trays	*na*	*na*	xR	x↓	x→	x↓	0	1
Total							***5***	***10***

As shown in Table 3, the 'event' of Sandra's gaze alternating between one recipient and the other (rather than shifting upward, sideways, etc.) occurs 5 times out of 10 possible 'trials' (that is, cases where the last gaze fixation prior to a component transition is toward a recipient).[2] Based on the binomial distribution and with the null hypothesis probability of each event set to 0.17, the probability of five events out of ten trials is 0.01409404—that is, far smaller than the 0.05 threshold for significance. In other words: there is a significant association between Sandra's gaze alternation from one recipient to the other and the storytelling's progression from one story component to the other.[3]

3.3 Acceleration hypothesis

As noted, to find out whether in fact Sandra's gaze alternation accelerated toward Climax and decelerated thereafter, for each storytelling we depict the durations of Sandra's alternating gazes by story components and compute trends for the durations of Sandra's recipient-directed gazes from Preface (if available) or Background up until Climax completion while the hypothesized deceleration is read off the scatterplots visually.

The durations of Sandra's recipient-directed gazes are plotted in Figure 10.

Inspection of the scatter plots shows support for the acceleration hypothesis. First, we see that the the durations of Sandra's alternating gazes from story beginning to Climax completion exhibit a downward slope. Only in "Summer break" is the trend reversed; and, even here, the gaze durations during Climax are all much shorter than during prior components except for the last one, which is quite long. Second, in four out of the five storytellings, Sandra's gazes occurring after Climax completion remain much longer on the co-participants than before Climax completion; only in "Funny dog" are the post-Climax gazes short.

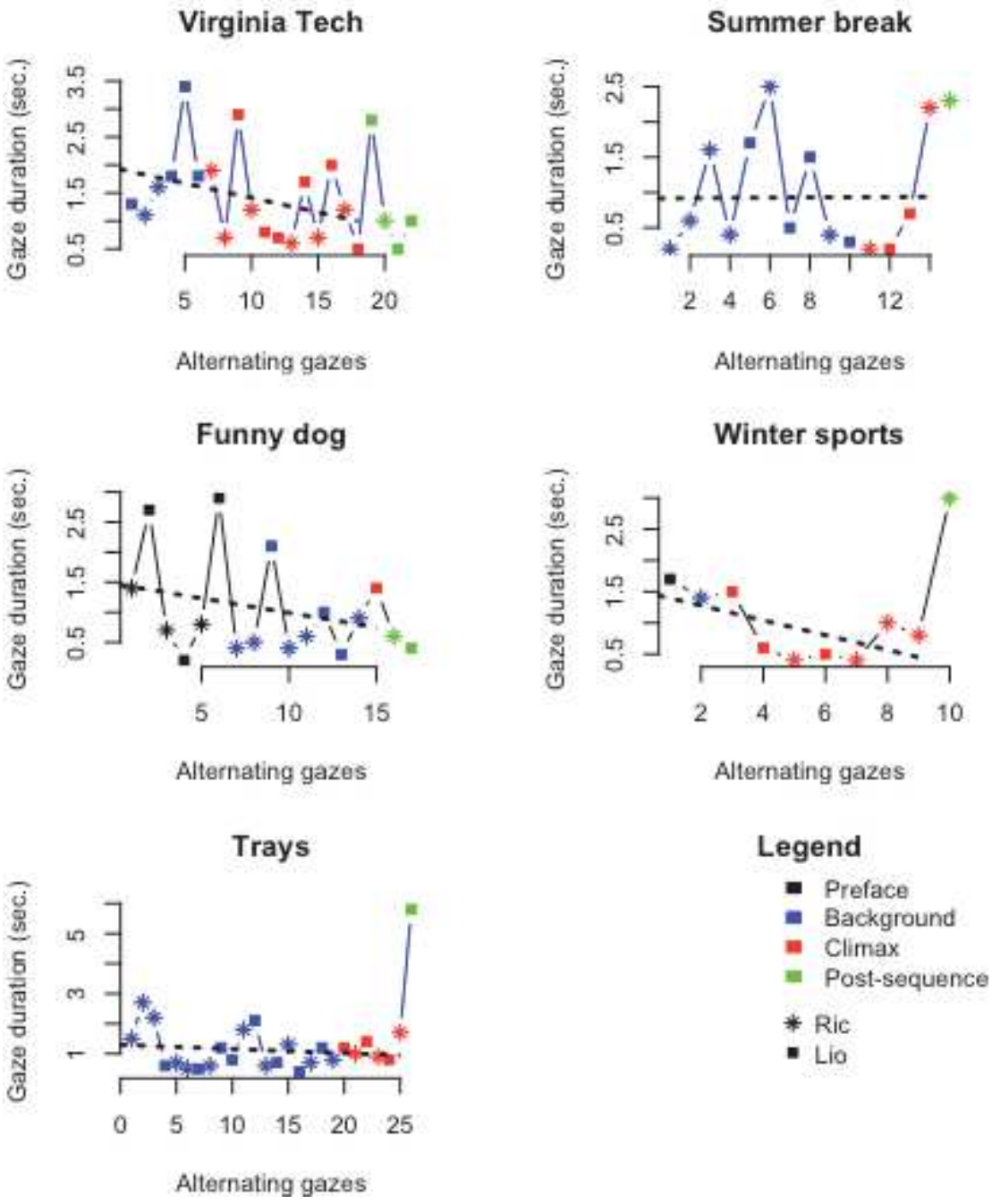

Figure 10: Gaze alternation acceleration

4 Discussion

In this section, we discuss the implications of the results obtained from testing our three hypotheses—the addressee-status hypothesis, the texturing hypothesis, and the acceleration hypothesis.

4.1 Addressee-status hypothesis

The addressee-status hypothesis stated that the storyteller in the sample will alternatingly look at story recipients not only when both recipients are equally addressed recipients but also when the

addressee status is asymmetrical with one recipient the primary addressee and the other the secondary addressee. The results support the hypothesis.

We found that the share in gaze time was greater when the gazed-at recipient was a primary addressee than when the recipients were equally addressed. So, addressee status did have an impact on Sandra's gaze behavior. However, the difference between primary and secondary addressees was a relative one, not an absolute one: secondary addressees were not excluded from gaze altogether. Instead, the secondary addressees did receive gazes, albeit fewer than primary addressees. They were thus included in the storyteller's gaze, and hence in the storytelling interaction, despite their secondary status.

It is rewarding to consider this inclusion in the light of recent research suggesting that conversation is 'built for two' (Stivers 2015b; cf. also Author 2015 b). If indeed the structure of conversation is fundamentally dyadic, regardless of the number of participants, there is in multi-party interaction a constant danger for participants of being marginalized and becoming bystanders and for talk of dissolving into schisms (cf. Auer 2018). To judge from this single-case study, there is a chance, if Sandra's behavior is not idiosyncratic but indicative of a social practice, that alternating gaze serves to mitigate the exclusive effects of the dyadic structure and to achieve inclusion. The inclusiveness of alternating gaze is particularly critical in multi-party storytelling in that, as noted earlier, stories are vehicles for stance affiliation. Multi-party settings provide an opportunity to achieve multiple affiliation. Therefore in multi-party storytelling tellers may seize that opportunity by working to achieve affiliation not only by one but more than one and possibly all participants co-present. It is here that alternating gaze has its sweet spot: as a non-verbal modality that is ideally versatile in combining with the verbal modality and by which tellers can 'tie' recipients to the storytelling in progress, keep them engaged in it, and recruit each of them for affiliation. Thus, to extrapolate from this single-case study, alternating gaze may offer a practiced solution to the basic social organizational problem of recruiting assistance (Kendrick & Drew 2016), assistance which in storytelling is to be displayed in the form of affiliation with the teller's stance.

4.2 The texturing hypothesis

The texturing hypothesis returned a positive result. The teller's alternating gaze was aligned with the tellings' progression through distinct story segments. Segment transitions matched gaze transitions from one recipient to the other. This finding complements Goodwin's (1984) finding that *recipient* gaze is a means to "differentiate the distinctive sequential organization for talk provided by a story" (Goodwin 1984: 230). Our main finding is that *teller* gaze was a means by which Sandra indexed the completion of one section and the progression to the next. Providing these indices is a service accomplished by the teller for the benefit of the recipient. For recipients of a story face "a practical problem" (Goodwin 1984: 227): the problem "not simply of listening to the events being recounted but rather of distinguishing different subcomponents of the talk *in terms of the alternative possibilities for action they invoke*" (Goodwin 1984: 243; added emphasis). Different story sections make different responses relevant. For example, responses typically found during, or upon completion of, Background include continuers exhibiting "an understanding that an extended unit of talk is underway by another [speaker] and that it is not yet, or may not yet be (...) complete" (Schegloff 1982: 81). By contrast, when storytellers move into Climax, a different set of response tokens becomes relevant, namely tokens of affiliation displaying the recipient's stance, including, for example, head nods (Stivers 2008) and laughter (Sacks 1984). To extrapolate again, Sandra's gaze behavior suggests the possibility that storyteller's alternating gaze may represent a design practice at the intersection of sequential position and action (Drew 2013) aiding recipients in recognizing the current sequential position of the storytelling-in-progress and choosing from appropriate options for response action.

4.3 The acceleration hypothesis

Third, we observed that Sandra's participant-directed gazes became shorter as the telling progressed toward the Climax and became longer as the telling moved past Climax and into Post-completion.

Sandra's accelerated gaze alternation toward Climax can be seen as an indexical process. Levinson (2004) notes that reduced gestures, among which he includes directed gaze, co-articulate with indexicals to alert the "addressee's *attention* to some feature of the spatio-temporal physical context" (Levinson 2004: 102, added emphasis; cf. also Hanks 2011: 316). In the case of alternating gaze in storytelling, the type of context the addressees' attention is directed to is the Climax completion as the sequential location at which the recipients' display of affiliation with the teller's stance becomes critical (cf. Stivers 2008).

To tentatively generalize, then, gaze alternation may function as an attention-getting social practice to alert the recipients to the forthcoming Climax completion and bring about their stance display. Moreover, the acceleration up to Climax completion is a continuous (linear) process, accompanying the entire storytelling sequence from its onset in Preface or Background to Climax completion. As such, it may be seen as integral to the 'climacto-telic' (Georgakopoulou 1997) *design* of storytelling as an extended sequence giving recipients advance notice when the high-point will be reached (cf. Atkinson 1984 for response projection design in public speeches). Climax-projection design is crucial in interactional terms in that, as noted before, the Climax completion represents the interactional highpoint: the point of stance affiliation. That is, as an attention-securing indexical and an element of Climax-projection design, alternating gaze may contribute to the orchestrated *crescendo* of multi-modal resources guiding the recipients towards the high-point thus securing the accomplishment of what the storytelling project is about: agreement with the teller's stance.

Finally, note that accelerated gaze alternation may, to an extent, be intertwined with texturing gaze alternation.[4] It is true that texturing can function independently of acceleration—teller's gaze could, in theory, alternate at story component transitions without at the same time accelerating—but the inverse is not true: acceleration cannot be thought of as independent of texturing. Accelerated gaze alternation alone inevitably textures storytelling, just in a more global way than if coupled to alternation at story-internal transitions: while acceleration alone does not mark each transition from component to component and thus does not invoke "alternative possibilities for action" (Goodwin 1984: 243), its continuity across the storytelling's progression toward Climax can be seen as advance-projecting the teller's arrival upon the Climax and thus as a means to invoke relevant action at that point.

5. Concluding remarks

In this paper we presented a pilot single-case study on gaze in multi-party conversation, focusing on what we called alternating gaze, defined as current speaker's gaze alternating between non-current speakers. We presented evidence suggesting intriguing discoveries, whose generalizability, however, needs yet to be proven.

We discovered that Sandra looked at secondary addressed recipients despite their secondary addressee status (albeit she did so to a lesser degree than she looked at the primary addressees). We argued that Sandra's practice of 'multi-addressing' is an *inclusive* practice, and we noted the possibility that alternating gaze may represent a practiced solution to the problem of exclusion caused by conversation's dyadic structure (cf. Stivers 2015b; Auer 2018).

Further, we observed that Sandra's alternating gaze was correlated with the tellings' progression through distinct story segments. This finding is consistent with, and complimentary to, Goodwin's (1984) finding that *recipient* gaze is differentiated in terms of the storytelling's progression through its distinct sections. We argued that in its capacity to highlight transitions between story components, teller's alternating gaze may be designed to assist recipients with the practical problem of recognizing the current sequential position of the storytelling-in-progress and choosing from appropriate options for response action.

Finally, we discovered a trend for Sandra's alternating gazes to accelerate over the storytelling sequence up until Climax completion and, from there, to decelerate into Post-completion. We interpreted this acceleration as consistent with and contributing to storytelling's Climax-projection design: by using the bodily resource gaze as an indexical modality to draw the

recipients' attention to the talk's progression toward Climax completion, the acceleration of alternating gaze gives recipients advance notice that the teller is 'on their way' toward Climax completion—that critical point where the recipients' stance display is expected.

A number of serious limitations to this study need to be emphasized. First, these findings were made on a single speaker's interactional behavior in a single conversation of limited size. Second, the recording equipment was simple, lacking the sophistication of other current investigations into gaze, for example those based on eye-tracking (cf. Introduction). Third, none of the co-participants were native speakers of English. As a reviewer pointed out, "while conversing in a non-native tongue, looks towards recipients might not be just about inclusion in the telling but also about monitoring whether recipients fully understand what one is saying. In other words, there might be additional motivations for the multi-directional glancing that might not be just about the telling but also due to linguistic proficiency". This is obviously a valid observation that can fully only be countered once the above findings are corroborated in studies of native-speaker interactions. Finally, it was beyond our aims to investigate in good detail how the teller's gaze behavior was correlated with the recipients' gaze behavior (cf., for example, Goodwin 1984, Bavelas 2000, Aoki 2011).

These limitations warrant due caution in *generalizing* our results: we do not know at this stage whether the findings are true only to this one storyteller and this one storytelling setting but need to await substantiation of the findings in other, larger and more diverse samples before we can claim that Sandra's individual practices amount to examples of social practices of action in the use of alternating gaze in storytelling. We are confident that Sandra's alternating gaze behavior will not be completely idiosyncratic given the high level of consistency of the findings across all storytellings analyzed and Sacks's dictum regarding 'order at all points', which allows a researcher to "[t]ap into whomsoever, wheresoever, and we get much the same things" (Sacks 1984: 22).

Overall, this pilot study may provide a starting point for future explorations of gaze in multi-party storytelling. The three hypotheses that have guided the analyses in this paper may indicate directions to guide these explorations.

Finally, we hope to have shown that combinatorial approaches, such as the XML-based one underlying this study, can help CA and related fields to come to terms with the practical problem of identifying, and validating, social practices of action in data of scale (cf. Haugh & Musgrave 2019).

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[1] We acknowledge at this point that underlying the analysis of addressee status is the assumption of stable participation roles throughout each storytelling. As pointed out by an anonymous reviewer, a range of CA studies suggest that "participation roles are *not* stable, but are continuously changed – even within the boundaries of a turn". However, the actions performed by Lio and Ric during the storytellings are so minimal, being largely restricted to providing acknowledging and affiliating tokens in the 'back channel', that it seems admissible to treat participation roles throughout the storytellings as if they were stable.

[2] An interesting initial observation is that the Preface-to-Background and Background-to-Climax boundaries show gaze switches but the Climax-to-Post-sequence do not. This observation deserves closer examination in larger datasets.

[3] It might be argued that what was called the absent gaze (cf. Section 2.3) is so infrequent that it should not be counted among the possible events. If we do exclude the absent gaze from the list of possible events, the total number of possible events shrinks to five and the null probability for each of these events is 0.20. Based on the binomial distribution, the probability of obtaining, from 10 trials, 5 alternating gazes from one recipient to the other at segment transition is still significantly small, namely 0.02642412.

[4] We are indebted to an anonymous reviewer for addressing this issue.

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