

How hand gestures contribute to action ascription

Niina Lilja (corresponding author)

University Lecturer

Faculty of Information Technology and Communication Sciences

FI-33014 Tampere University

email: niina.lilja@tuni.fi

phone +358 50 3070589

Arja Piirainen-Marsh

Professor

Department of Languages

University of Jyväskylä

P.O. Box 35

FI-40014 University of Jyväskylä

email: arja.piirainen-marsh@jyu.fi

How hand gestures contribute to action ascription

Abstract

This article investigates the embodied achievement of intersubjectivity by analyzing depictive gestures that are produced during the final components of the ongoing verbal TCU and extended into the following turn transition space. The depictive gestures in focus elaborate the TCUs by providing additional information on the verbal content of the turn. They may, for example, provide a visual representation of an action that is referred to in the verbal TCU, depict details that are not referred to in talk or perform bodily enactments that model projected next actions. The analysis demonstrates that timed in this way, the gestures contribute to the multimodal action package that they are part of in a specific way: they work to secure the recognizability of the ongoing action and enhance co-participants' possibilities to produce the relevant next actions. In this way the gestures support action ascription. The data are in Finnish with English translations.

1 Introduction

The achievement of intersubjective understanding is a social process embedded in the complex interplay between language, embodied actions, material ecologies, and specific activities and tasks at hand (Goodwin 2000, 2007, Streeck, Goodwin & LeBaron 2011, Keevallik 2018). Interactional resources get their meaning in relation to one another, and together they form packages of social action (Streeck 2009) or 'multimodal gestalts' that structure sequences of action (Mondada 2014). Studies of embodied action in conversation demonstrate that the way that gestures and other embodied resources

are timed relative to verbal elements in turns and sequences in progress is fundamental to the organization of participation and achievement of mutual understanding (e.g. Goodwin 1980, 1981, 2003, 2007; Streeck 1993, 2009; Mondada 2007, 2013). Bodily resources such as gaze, gestures, facial expressions and other embodied configurations shape turn construction, the organization of units and turn spaces, and the interactive construction of actions (Lerner 2004, Mondada 2014). This article investigates the embodied achievement of intersubjectivity by analyzing how the use of manual depictive gestures, more specifically gestures that depict an action referred to in talk, contributes to the situated construction of turns and actions. Based on a detailed analysis of the temporal positioning and situated use of depictive gestures in face-to-face interactions in different everyday settings, this paper argues that depictive gestures in mid- or end of TCU position form a specific practice for furthering shared understanding and securing progressivity of activity.

Depictive or iconic gestures depict or represent concrete entities, actions or events that are (typically) also referred to in speech (McNeill 2005). Their composition involves “a bit of movement and a lexical component relative to which this movement is depictive” (Schegloff 1984: 275). In gesture studies iconic gestures have been distinguished from other types of gestures on the basis of their relationship to the semantic content of the utterances that they accompany: iconic gestures “display in the form and manner of their execution aspects of the same concrete scene that is presented in speech” (Kendon 2004:100). Iconic gestures are one method for depiction (Clark 2016), staging physical scenes for others to communicate meaning as components of utterances. In this study, we adopt the term *depictive gestures* to refer to hand movements that depict or model (Enfield 2009) actions or scenes that are referred to in the verbal utterances that they co-occur with. In this way, they elaborate the meaning of the utterances and serve as important resources for the participants. Although depiction by means of iconic gestures, demonstrations and other types of embodied displays is a common method for

communicating meaning (Clark 2016), surprisingly little is known about the precise ways in which depictive gestures figure in the emergent production of turns and accomplishment of actions in different settings and interactional environments.

Schegloff (1984) demonstrated that depictive hand gestures are regularly pre-positioned relative to their lexical affiliates so that both the onset and the apex¹ of the gesture precede the lexical component that the gesture shares semantic content with. According to Schegloff (1984: 278), this pre-positioning of gestures can be seen as a way of constructing a 'projection space' for the upcoming lexical items – having them in play already before they are being produced. However, depictive gestures occur also in other temporal positions. McNeill (1985, 1992), for example, has shown that the main phase of the gesture is generally synchronized with articulation of speech, whereas Chui (2005) observes that iconic gestures can precede, co-occur with or follow related words. How they interact with other features of turns to perform different functions remains to be investigated. Earlier studies show that hand gestures produced during turn transitions can contextualize the following turn by providing indications of the pragmatic type of the turn that is about to begin (Streeck & Hartge 1992, Streeck & Jordan 2009). In addition, gestures may be used in other ways to build interactional coherence. They can also have distinct temporal profiles: for example, the speed of the movement in a gesture may be altered online to fit the contingencies of the interaction (see Streeck 2009, Mondada 2018), and the movement of a gesture can also be entirely frozen to indicate a conversational problem (Floyd et al. 2014).

This paper aims to shed new light on the temporal alignment, features and functions of depictive gestures in mid- or end-of-TCU positions. More specifically, it aims to show how depictive hand

¹ Apex is a term referring to the main phase of the gesture during which the gesture reaches its main point, i.e. a point “where the expression of the gesture is accomplished” (Kendon 2004: 112; Wagner, Malisz & Kopp 2014).

gestures positioned at the end of TCUs work as a current speaker's resource for making their actions intelligible to recipients. This way, the gestures contribute to action ascription²: they support the achievement of "joint good enough understanding" and the production of the next relevant action (Levinson 2013: 104). First the analysis demonstrates how the temporal trajectory of the gesture is coordinated with the verbal TCU, and in particular, how the apex of the focal gesture is timed to begin in the middle or end of the TCU and extended beyond the verbal TCU. Second, the analysis shows how the recipients orient to the focal gestures through gaze and body position. Finally, we discuss the functions that the gestures serve in interactional sequences embedded in specific activity environments. The findings suggest that depictive gestures in TCU-final positions enhance the recognizability of the action for the recipient. By facilitating action recognition and by supporting the understanding of the verbal contents of the focal turns, the TCU-final gestures project next actions by the recipient and thereby support progressivity of activity (see also Stivers & Robinson 2006). This way, the use of TCU-final depictive gestures indicates how speakers' responsibility to secure the intelligibility of the ongoing action is extended beyond the verbal TCUs (Kendrick 2015). The findings contribute to understanding depiction as a situated resource and highlight the importance of investigating the temporal positioning of gestures for understanding how intersubjectivity is maintained and sequential progressivity is secured in interaction.

2 Embodied achievement of intersubjectivity in turn transitions

² Following Levinson (2013: 104) we use the term *ascription* to discuss "the assignment of an action to a turn as revealed by the response of a next speaker, which, if uncorrected in the following turn(s), becomes in some sense a joint 'good enough' understanding". This term is preferred over action *recognition* to highlight that actions are not unequivocally recognizable, but rather, often negotiated.

Conversation analytic research has shown how different interactional modalities work together to construct emergent units that are the building blocks of turns and how mutual understanding in interaction is achieved, not just on a turn-by-turn basis, but by monitoring ‘parallel flows of action’ that emerge through simultaneous courses of bodily actions and participants' orientations to the material environment (Goodwin 2000, Deppermann 2013, Kevallik 2018, Mondada 2016). Current speakers monitor how their turn is received and are sensitive to embodied cues by the recipients: for example, facial expressions indicating puzzlement or signs of incipient disagreement provide opportunities for the current speaker to modify an ongoing turn (Goodwin 1981, Kendrick 2015). Recipients of ongoing turns anticipate turn transition spaces based on syntactic, prosodic, pragmatic and embodied cues, which inform their understanding of the social action that the turn is accomplishing (see e.g. Sacks, Schegloff and Jefferson 1974, Ford & Thompson 1996, Olsher 2004). Recipients can also initiate next actions (e.g. an early response) by means of bodily resources before the ongoing turn reaches completion (Mondada 2014, 2016, 2018). The interactive construction of TCUs and turns is thus intertwined with the complex temporal organization of bodily actions by the speaker and the recipients.

Recent studies highlight the role of embodied activity in signaling and managing trouble in talk.

Studies show that delays in sequence and activity progressivity are often taken as signals of problems of hearing or understanding (Schegloff, Jefferson and Sacks 1977), or as indications of the onset of a dispreferred action (see Pomerantz 1984, Kendrick & Torreira 2015). The turn transition spaces before other-initiations of repair (OIs) have been found to be generally longer than transition spaces between e.g. question-answer adjacency pairs (Schegloff, Jefferson & Sacks 1977, Robinson 2006). Kendrick (2015) zoomed into the transition spaces preceding other-initiations of repair, measured their lengths and analysed what the participants accomplished during them. His detailed multimodal analysis shows that speakers use the transition before OI to 1) search for a later recognition of the turn, 2) provide an

opportunity for resolving the trouble and 3) produce visual signals such as "facial gestures" that may obviate the need for a verbal OI (Kendrick 2015). However, as his analysis focuses on the transitions preceding OIs, it does not explicate what happens in contexts of smooth turn transitions. This paper adds to the understanding of the multimodal achievement of turn transitions by showing how TCU-final depictive hand gestures support transitions between turns and actions.

We build our analysis on earlier studies focusing on the role of gestures in turn organization, in particular at turn boundaries. Research shows that gestures can be used to extend verbal turns (Goodwin 1981, Kendon 1995), achieve co-construction of utterances (Bolden 2003) and to suggest a need for turn transition (see e.g. Mondada 2007, Streeck & Hartge 1992). Pointing can serve as a turn-entry device (Mondada 2007), while gesture retraction can project turn completion (Mondada 2006). The current speaker can also hand over the turn to the next speaker by stretching an arm towards her with an open palm facing up (see Kendon 2004). Extending a gesture beyond a turn boundary can indicate what type of action an utterance accomplishes (Kendon 1995, Streeck & Haartge 1992), whereas a gesture hold can indicate occasions where participants have not yet reached shared understanding (Floyd et al. 2014, Sikveland & Ogden 2012). Of particular relevance for this study are gestures that are used to complete turns that are initiated verbally (Olsher 2004, Mori & Hayashi 2006). Such 'embodied completions' are 'hybrid interactional moves' that consist of a partial verbal TCU that projects the embodied action that takes the turn into completion (Olsher 2004: 242). According to Mori and Hayashi (2006: 200) embodied completions make observable the speaker's ongoing estimations of the interactional resources that the participants share and are motivated by recipient-design considerations. In their second language data, embodied completions are produced by first language speakers who complete their turns by embodied means in situations in which the linguistic asymmetry between the participants has been observable in prior conversation. In a similar way, the use of

depictive hand gestures performed in the end of TCUs is motivated by recipient design considerations. Also in our data, the gestures and speech mutually elaborate each other to secure the understanding of the ongoing turn. The relative ordering of gestures and speech, however, is different. In embodied completions, the gesture and the preceding partial verbal TCU together form a hybrid unit that can be recognized as carrying out a social action. In the cases analysed in this paper, the gestures are coordinated with verbal utterances and the apex of the gesture is carefully timed to begin in the middle or end-position of the ongoing verbal TCU. Timed in this way, the gestures extend the boundaries of the TCU and, together with other embodied resources, provide additional information on the verbal contents of the ongoing turn. In this way they facilitate action recognition and contribute to the emergent organization of action.

3 Data and methods

The data come from a wider corpus of second language interactions in various everyday settings, such as gardening activities (approximately 6 hours), cooking classes (approximately 12 hours), interactions between co-workers at a construction site in a vocational school (approximately 10 hours) and service encounters (interactions in coffee shops, at a hairdresser) (approximately 2 hours). While these settings are quite diverse, they all involve manual or physical activities that are tightly connected to the material environment (e.g. cooking, constructing, planting). The practice in focus in this paper was identified after our initial observation that depictive gestures occur in TCU-final positions and they are recurrently used in two different sequential positions: in turns that initiate new action sequences and in responsive turns, especially explanations. The focus in this paper is on the gestures in initiating turns. For the purposes of analysis, we built a collection of 100 sequences where depictive gestures were used in initiating actions in different temporal positions. Within this collection, we identified 29 sequences

in which a depictive gesture is used in TCU-final position as part of a multimodal action package. Frequent initiating actions in the data are instructions (e.g. how to use a hand blender), directives (of what to do next), requests (e.g. to give a hammer) and questions. In our data, depictive gestures in TCU-final positions occur in activity contexts where the recipient of the initiating turn is expected to react to the initiating turn immediately in the next turn. In these contexts, it is crucial for the recipient to understand the initiating turn in order to respond in a sequentially relevant way. The sections to follow will illustrate how the use of TCU-final depictive gestures serves as specific kind of resource for making the initiating actions recognizable to the recipient and thereby furthers intersubjectivity.

In these data, the contexts in which the focal gestures are performed are characterized by asymmetries between the participants. The data come from second language interactions, where linguistic asymmetry is often observable. However, as the examples will show, participants also orient to other types of asymmetry, such as socially distributed roles related to the larger activity or task, and their relative rights and responsibilities with regard to knowledge that is relevant for accomplishing the task. It is the participant who has access to relevant knowledge and the right to issue the initiating action in the activity who uses the depictive gesture in TCU-final position.

The participants in the data set have given consent for the use of the recordings for research purposes. The data have been transcribed following the conventions for multimodal CA transcription developed by Mondada (n.d.). Still photos (frame grabs) from the videos illustrate the use of the focal gestures by the participants. The transcripts, including images, have been anonymized to protect the identity of the participants. The data is analysed using conversation analysis with detailed attention to features of embodied conduct as well as participants' orientations to the material environment (see e.g. Mondada 2014).

4 Features and functions of depictive gestures in TCU-final position

The following sections illustrate how TCU-final depictive gestures are accomplished and how they interact with other embodied configurations to further understanding in the sequences in which they are used. The first section (4.1) describes the temporal positioning of the gesture relative to the verbal components of the TCU and shows how the participants orient to the gesture in their conduct. Section 4.2 elucidates the functions that depictive gestures in mid- or end-of- TCU positions perform in the environments in which they are used.

4.1 Temporal position and recipient's orientation

The first two extracts illustrate the temporal position of the focal gestures in relation to talk and show how both the speaker and the recipient orient to the relevance of the gesture for furthering the activity in progress. In both extracts, the apex of the gesture is timed to occur in the end of the verbal TCU and extended beyond it. However, the precise timing of the gesture relative to the verbal TCU differs. In extract 1, the focal gesture is initiated on the final word of the verbal TCU and performed in the turn transition space that follows. In extract 2, the apex of the gesture is extended into the turn transition space following the verbal TCU and held until the recipient of the focal turn produces the relevant next action.

Extract 1 comes from a gardening project in which immigrants to Finland are instructed on growing vegetables in the Finnish climate conditions. In this interaction Hanna, who is a gardener, is advising a

group of participants who are planting seeds for vegetables that they aim to grow in greenhouses later in the summer. Extract 1 comes from an exchange between Hanna and Adam, who has planted some seeds on a seeding tray. Before the beginning of extract 1, Adam has walked to Hanna with the seeding tray in his hands. Hanna is standing next to a table where the gardening utilities are placed. In line 1 Adam shows orientation to Hanna's expertise by inviting her to assess his work: he asks whether his seeding tray looks okay. The focal gesture is part of Hanna's turn in lines 6 and 7.

Extract 1, Plastic wrap

+ HAN's gestures

* HAN's gaze

^ ADA's gestures

f ADA's gaze

01 ADA: fonko hyvä?
is it good
>> fgaze towards the seeding tray->

02 *(.)
han: *gaze towards the seeding tray->

03 HAN: se o: oikee hyvä (.) joo
it is very good (.) yes

04 ADA: ^(niit on) fviis ^
(they are) five
^points towards the tray with left hand^
->fgaze towards Hanna->

05 HAN: viis f>nonii< (.) joo (.) sitten *(.)
five PRT yes then
->*gazes towards the items
on the table->

ada: ->fgaze back to tray->

In the focal turn Hanna advises Adam to put some plastic wrap over his seeding tray. The turn begins with turn initial particles (l. 5), after which Hanna produces a verbal TCU that is constructed as a suggestion on how to proceed with the task (l. 6). As Hanna produces this TCU, she points at a packet of plastic wrap on the table and, while pointing, gazes at Adam. She articulates the word *kelmua* (plastic wrap) slower than the surrounding talk. The slow articulation, pointing gesture and gaze work to make the referent recognizable to Adam. The focal gesture begins during the final sounds of the last word of the verbal TCU (see l. 6 - 7, figs 1a & 1b).

At the onset of the gesture, Hanna holds her hands in front of her next to each other so that her thumbs and index fingers are together (as if holding a thin paper or foil, see fig 1a). The gesture consists of the action of moving the hands apart from each other to the sides (fig 1b). In this context, the gesture depicts the action of unfolding the plastic wrap and in this way adds information to the verbal contents of Hanna's turn. By making this action transparent, the gesture models what Adam is expected to do next and works to support Adam in initiating the course of action that complies with Hanna's advice. The timing of the gesture plays a crucial role in this: the gesture is initiated during the final sounds of the verbal TCU (l. 6) and thus performed almost entirely in silence, in front of the participant to whom the advice is directed. While performing the gesture, Hanna gazes at her own hands (figs 1a & 1b). These features together make the gesture clearly noticeable to the co-participant. Adam visibly orients to the gesture by gazing at Hanna's hands. After the gesture, Hanna provides further gestural cues on the next course of action by pointing at another planting pot, which has plastic wrap over it.

Concurrently with this Adam reaches for the wrap (fig 1c) and starts to open the packet. His actions display that he is about to proceed the way Hanna has advised.

Extract 2 shows a slightly different temporal trajectory of the focal gesture, but also in this case the apex of the gesture is performed towards the end of the verbal TCU and extended into the following transition space. In this extract the focal gesture is performed as part of a turn in which a clerk in a café instructs the client on how to proceed with the payment. The turn initiates a remedial activity that deals with a technical problem that emerges during the payment sequence. Alan has just ordered a cup of coffee and is about to pay for it using a card. After checking Alan's student card (l. 4–8), the clerk announces the price of the coffee (l. 10) and Alan puts his card in the card reader (l. 11). He then waits, prepared to enter his pin number. However, the payment does not proceed and the clerk instructs Alan to take his card out of the machine (l. 14). The focal gesture is part of this turn and, similarly to extract 1, it is extended beyond the verbal TCU (l. 16).

Extract 2, Alan in the coffee shop

+ Alan's gestures
* Alan's gaze
f Clerk's gestures
^ Clerk's gaze

01 Ala: #haluaisin aah: (.) yhden kahvin?
 want-COND-1 one-ACC coffee-ACC
 I would like **one coffee**
fig: #Fig 2a



Fig 2a

02 Cle: [>joo<
yes

03 Ala: [*öö (.) ^*tämä kahvi?=
this coffee
 *gaze down towards the counter
 *gaze back to the clerk->
 cle: ^gaze down towards the counter ->

04 Cle: =>joo< (.) ^onko opiskelijakort(tia)
yes do you have a student card
 ->^gaze to Alan ->

05
 +(.)
 ala: +leans a bit towards the clerk->

06 Ala: joo +(.) *opiskeli- ^f (.) olen.
yes stude- I am
 -> +
 -> *gaze down ->
 cle: ^gaze to cash register->
 fstarts to use the cash register

07
 +(1.2) +*^#(.)
 ala: +starts to handle the purse
 +presents the student card to the clerk->
 ->*gaze to clerk ->
 cle: ^gaze to Alan's card ->
 fig: #fig 2b



Fig 2b

08 Cle: >kii^tos:< *+
thank you
 ->^gaze to cash register screen->
 ala: ->*gaze to purse ->
 ala: -> +puts card back to purse ->

09
 (.)

10 Cle: ^kolme ja viistoista.
three and fifteen
 ->^gaze to Alan's hands and purse->

11
 +(2.6) +^ f# (1.0) +#(3.0)
 ala: ->+takes another card out of the purse
 +puts the card into the reader

cle: ->^gaze to cash register screen->
 ftaps cash register screen->
 ala: +leans slightly towards the reader and gazes to it,
 hand ready to tap the pin number->
 fig: #Fig 2c
 fig: #Fig 2d

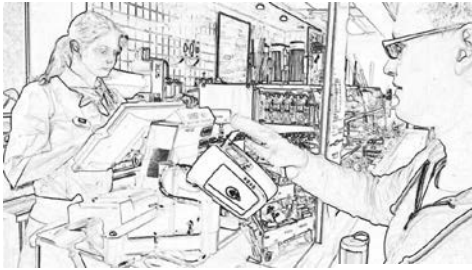


Fig 2c



Fig 2d

12 Cle: f°hmm°
 ->ftouches cash register screen with RH index finger->

13 (1.0)

→ 14 Cle: f^otatko #kortin pois:+ # (.)
 Take-2-CLI card-ACC out
 could you take the card out
 ->fmoves RH first towards Alan and then up
 above the cash register,
 thumb and middle finger touching each other ->
 ^gaze to Alan

ala: +raises gaze towards
 clerk's hand gesture->

fig: #Fig 2e

fig: #Fig 2f



Fig 2e



Fig 2f

→ 15 Ala: +#(pois)
 (out)
 +#starts to take the card out of the reader->
 fig: #Fig 2g



Fig 2g

16 Cle: ^f +>kiitos<
 thanks
 ->^gaze to the cash register screen ->
 ->fstarts to tap the cash register screen ->
ala: ->+holds the card in hand above the reader->

17 (2.0)

18 Cle: ^f joo kokeile vaa uudestaa.
 yes just try again
 ^gaze to Alan
 -> f

In the focal turn, the clerk requests Alan to remove his card from the card reader (l. 14). Prior to this turn there are observable indications of trouble with the progression of the payment, visible in the frozen positions of the participants. They both stand still gazing towards screens: the clerk's gaze is directed at the cash register and Alan's at the card reader. Their bodies are thus aligned in 'waiting' position and monitoring the screens in preparation for the next action in the payment sequence (l. 11, fig 2d). When nothing happens, the clerk taps the cash register screen once (l.12) and then initiates the request to take the card out (l. 14).

At the beginning of the turn, the clerk turns her gaze towards Alan, raises her hand and moves it towards Alan (l. 14, fig 2e). When she has produced the first verbal component in her turn (*otatko*, could you take), her hand is in raised position above the cash register (fig 2e). On the next two words (card out) her hand is in position for a depictive gesture. The depictive gesture reaches its apex at the

end of her verbal turn: she stretches the final sound on the last word and does a movement that depicts the action of taking the card out of the register, i.e. raises her hand higher keeping her middle finger and thumb together (fig 2f). The clerk performs the gesture in front of Alan's eyes, sustaining her gaze at him. Importantly, the gesture is held in this position until Alan has proceeded to take his card out, i.e. until the beginning of line 16. Although brief, this hold, or freeze (see Floyd et al. 2014), is clearly observable (fig 2g). The gesture's trajectory is thus modified to secure Alan's noticing of its performance. This is achieved by extending the apex beyond the verbal TCU and by holding the gesture in a stable position until Alan has observably started to comply. Alan's embodied conduct shows that he pays attention to the gesture and adjusts his action accordingly. As the clerk begins the gesture, Alan maintains his gaze towards the card reader and holds his hand in readiness for tapping the pin number in the machine (l. 14). He only raises his gaze towards the clerk and towards the depictive gesture in the end of the verbal TCU as the gesture reaches its apex (fig 2f). As he raises his gaze towards the clerk, he simultaneously moves his hand towards the card and repeats the word *pois* ('out') (l. 15, fig 2g). He then proceeds to take the card out and thereby demonstrates understanding of the request for remedial of action. After this the payment sequence can continue.

The first two extracts demonstrate how depictive gestures are coordinated with the production of the verbal TCUs so that they extend the boundaries of the verbal TCU. In both cases the gesture is used as part of a multimodal configuration to accomplish an initiating action. In extract 1 the gesture elaborates a suggestion as part of giving advice to a recipient who has little previous knowledge of the task. By contrast, in extract 2 the gesture is temporally aligned with a verbal directive that deals with technical trouble in a routine activity, which is familiar to both participants: the payment sequence in a service encounter. In both cases the gesture is performed to be seen by the recipient. Both the current speaker

and the recipient show orientation to the relevance of the gesture for advancing the activity in progress by directing gaze towards the gesture and by initiating the relevant next action.

4.2 Functions

This section describes how the focal gestures together with other embodied configurations function to make the current speaker's action intelligible to the recipient. We begin by briefly revisiting Alan's interaction in the cafeteria. Extract 2 illustrates how a depictive gesture is used as part of a multimodal action package that addresses a technical problem in a remedial sequence. The gesture is finely coordinated with the verbal TCU and depicts the movement of the action of taking the card out of the machine. The gesture's trajectory depicts or models the movement of the requested action, perhaps in a slightly exaggerated way. As a multimodal action package, the clerk's turn thus projects a specific kind of response as the relevant next action by the recipient. It seems that the clerk's gesture is recipient-designed to deal with the technical trouble, but also with the possible trouble with understanding the request. There are no clear indications of linguistic trouble in this extract, but Alan's verbal turns still exhibit features of using a second language, displayed, for example, in the use of the nominative case in referring to his coffee (l. 3) where an accusative would have been more idiomatic (compare to line 1), and in the repetition of 'out' (l. 15). The prolonging of the last sound of the verbal TCU, the gesture's movement upward and the hold all work towards securing that Alan notices the gesture and starts to comply with the request without further delay. As soon as he starts to comply, the gesture is released and also the clerk orients to the next relevant actions in the payment sequence. The gesture is also designed to fit the material ecology of the encounter: the specific type of card reader (one that has the slot for the card on the front panel) and its position slightly below the clerk's gesturing hand. Overall the multimodal action package that the gesture is part of shows the clerk's orientation to the importance

of securing mutual understanding and Alan's possibilities to perform the next required action. This way the gesture works towards securing the progressivity of the activity.

The interaction in extract 3 takes place at the hairdressers. Sandra has dropped by to inquire about the price of getting highlights in her hair. The focal gesture is produced during an information-seeking question that needs to be answered in order for the activity to continue. Structurally the turn initiates a pre-second insert expansion (Schegloff 2007:110). The gesture depicts a (possible) future action that the question refers to. The conversation starts with greetings, after which Sandra (SAN) explicates her reason for the visit (l. 1-2, figs 3a, 3b). To be able to answer Sandra's question about the cost of highlights, the hairdresser (HAD) initiates two insert sequences to find out how long Sandra's hair is and whether she also wants it to be cut. The focal gesture co-occurs with the hairdresser's question about the haircut (l. 11). We present the whole sequence to illustrate the overall unfolding of the encounter. The participants have mutual gaze throughout the sequence and therefore, changes in gaze behavior are only transcribed when gaze is momentarily moved to gestures instead.

Extract 3, Sandra at hairdressers

+ Sandra's gestures

* Hairdresser's gestures

```
01 SAN: ehm: (0.4) eeh: mä haluasin (.) +rai#dat, *(0.4)
          I would like to get (.) highlights
          +points to hair with RH index->
had:                                           *nods
```

fig:

#fig 3a



Fig 3a

02 mutta (.) +pal#jonko: eh (.) raidat maksaa. +
 but (.) how much do (.) highlights cost
 ->+circling hand gesture in front of chest +
 fig: #fig3b



Fig 3b

03 *(.)
 had: * leans to his right and looks at Sandra's hair ->

04 HAD: eh: sinum# mittasilla hiuksilla, *#+(.)
 with hair of your length

san: ->*leans to his left ->
 +leans forward to the clerk;
 turns head to her left
 fig: #fig3c #fig3d

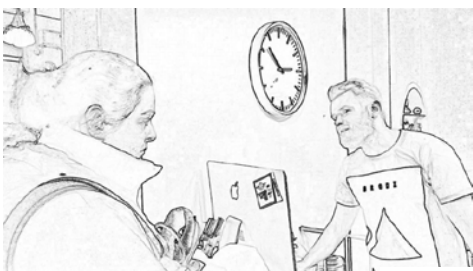


Fig 3c



Fig 3d

05 HAD: mäapäs katton minkä +mittaset [hiukset sulla on].
 I'll just check how long your hair is

san: +raises RH towards head

06 SAN: [ehm:*#
 had: ->*straightens position and
 moves RH to
 shoulder, holds the gesture ->

fig:

#fig3e



Fig 3e

07 SAN: mä on: +(.) pit- (.) [pit(kä)
 I IS
 I **am** **lon-** **long**
 +moves RH in front of face and then
 touches her right shoulder->

08 HAD: [pitkä:#
long

fig: #fig3f

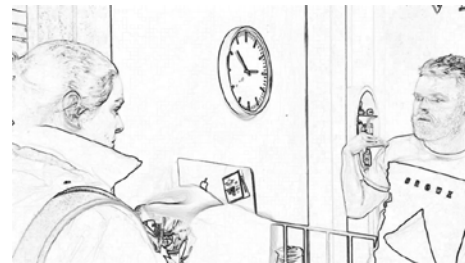


Fig 3f

09 HAD: jo[o.
yes

10 SAN: [tuk*ka+#
hair
 ->+
 had: ->*.....->
 fig: #fig3g



Fig 3g

→ 11 HAD:↑lei*#kataanko.+
 CUT-PASS-CLI
do we cut
 ->...*scissor gesture->
 san: +gazes towards clerk's gesture->
 fig: #fig3h



Fig 3h

→ 12 #(.)*+
 had: ->----*
 san: ->+
 fig: #fig3i



Fig 3i

13 San: *eh (.) +[ei.
no
 + shakes head
 had: *thumb up gesture->

14 HAD: [ei *(.) eeh mäpäs tarkistan vielä sen,
no I'll just check that
 ->*moves hand to computer keyboard

The focal gesture in line 11 is finely coordinated with the ongoing verbal TCU and elaborates its content: it depicts the action of cutting with scissors. This kind of gesture is easily recognizable (see Clark 2016) within the material ecology of the hairdressing saloon. The verbal TCU takes the form of an interrogative consisting of the verb *to cut* (*leikata*) in passive voice (*leikataan*) to which a question

clitic (*-ko*) is attached. As such, the verbal TCU is recognizable as a polar interrogative seeking a positive or negative answer.

Prior to the focal turn, the hairdresser has performed a series of embodied displays to assess the length of Sandra's hair (lines 4-6, fig 3c, 3d). In line 6 the hairdresser touches his right shoulder to display his estimate of its length (fig 3e) and in her response Sandra does a similar gesture to confirm the estimate (fig 3f). Preparation for the focal gesture begins when the hairdresser positions his hand in front of his chest (fig 3g) just before the onset of verbal TCU. As he produces the first syllable of the verbal TCU (l. 11), he starts to move his hand to his right and begins to move his index and middle finger closer to each other and apart again (fig 3h). However, at this point Sandra's gaze is not directed towards the gesture (fig 3g). Towards the end of the verbal TCU, before the clitic *-ko*, the apex of the cutting gesture is made more explicit: the direction of the gesture's movement changes as the hairdresser starts to move his hand to the left, back towards his chest (fig 3i). The movement of the gesture stops in the end of the verbal TCU, but the action that depicts cutting continues and extends into the turn space to follow. The hairdresser's gaze is directed towards Sandra throughout the trajectory of the gesture. The hand is then held in home position (Sacks & Schegloff 2002) in front of the hairdresser's chest. At this point (lines 11 - 12) Sandra moves her gaze from the hairdresser to the gesture (fig 3i). Her gaze is sustained on the gesture during the micropause in line 12, and the gesture is held in the same position. After this, she starts to produce an answer with a turn where the verbal component (negation) and gesture (shaking head) mutually elaborate each other.

The interactional context in which the gesture is performed is characterized by Sandra's trouble in reacting to the hairdresser's turns fluently. This is observable in particular in lines 6 and 7 where Sandra exhibits difficulty in reacting to the hairdressers' previous turn (in lines 4 and 5), which

explicates his checking of the length of her hair. After leaning to his left and right to check the length of Sandra's hair, the hairdresser does an embodied estimation of the length by raising his hand at shoulder level and touching his shoulder (l. 6, fig 3e). This embodied initiation makes relevant a response from Sandra, who first produces a prolonged *ehm*-sound and then continues with the first-person pronoun (*mä*), a copula (hearable as the verb 'be' in third person) and the adjective long (*pitkä*). The disfluencies at the beginning and also during her turn show that she has trouble in planning and formulating a response to the hairdresser's turn (see also Gardner 2007). As such, this verbal construction makes observable that Sandra is not a fluent user of the language of interaction. In spite of the disfluencies, her turn offers a verbal interpretation of the gestural estimate performed by the hairdresser (i.e. that her hair is long). Simultaneously with the verbal turn, Sandra also gesticulates and mirrors the gestures performed by the hairdresser: she touches her right shoulder to indicate the length of her hair (Fig 3f). As a social action package, constructed with both the verbal and embodied modality, Sandra's turn is understandable as a response to the hairdresser's checking the length of her hair.

The focal gesture thus occurs in an interactional context characterized by observable linguistic trouble. It indexes the material ecology of the activity by depicting an object that is easily recognizable in a hairdressing environment and relevant for the action referred to in the hairdresser's turn. The gesture imitates the movement of the scissor blades (i.e. moving the index and middle finger in a scissor-like manner) (see also Clark 2016) and is performed by simultaneously moving the whole hand. As such the gesture is quite transparent and makes the verbal contents of the focal TCU recognizable to the recipient. The extension of the gesture beyond the end of the verbal TCU and the hold during which Sandra gazes at the gesture, ensure its noticeability and give Sandra some extra time to process the turn. By virtue of its shape, timing and the way it is coordinated with the verbal TCU, the gesture

works to secure understanding and to enable Sandra to produce the next turn, i.e. an answer to the question.

Extract 4 comes from a data set from a construction site at a vocational school. The participating students, some of whom are second language speakers, are taking part in vocational training in construction work. Here they are engaged in a practical task: moving a playhouse that has been built on site using a hand pallet truck. The task requires a lot of negotiation and coordination of embodied courses of action. This involves sequences of sequences (Schegloff 2007) where embodied verbal instructions make relevant bodily-physical actions as responses. The focal participants are two students, Valle (VAL) and Ralf (RAL). Valle has taken the lead in organizing the moving operation. In the beginning of the extract the participants have, after some negotiation, reached an understanding (for practical purposes) of which direction the playhouse needs to be moved. The participants are standing behind the playhouse, Ralf more directly facing the house and Valle sideways (see figs 4a - 4d). Because the cameras were placed behind them, their gaze direction is not directly observable. However, as is observable in the images, for the most part their gaze is directed to the hand pallet truck as the focal object of attention. The extract comes from a sequence where Valle gives a series of instructions to guide Ralf's actions as he is maneuvering the hand pallet truck. Our focus is on three turns where verbal instructions are accompanied by gestures that depict positioning the truck straight underneath the house (lines 8, 9, 12). The extract begins after Valle's first instruction to put the hand pallet truck straight (*käännä se suoraks, turn it straight*). In line 8 Valle reformulates this instruction and performs a gesture that depicts the action of pushing.

Extract 4, at construction site

^ VAL's gestures
+ RAL's gestures

08 VAL: ^+eli vedä suaraan se tohon al^len °ny°.# (.)
so put it straight under there now (.)
^takes two steps towards RAL->^gesture with RH: pushes hand
towards the playhouse on chest
level in front of Ral->
ral: ->+takes a step to his left, towards VAL,
then a few little steps backwards
while adjusting the steering wheel ->
fig: #Fig 4a



Fig 4a

09 VAL: ^ja tonne +(.) vedä suaraan ^ (sitä siält^#[ä]
and there (.) put straight (from there)
->^ ^takes a few steps towards
the play house, touches the wall
with LF
^moves right arm horizontally
towards the play house
on chest level, and then back -> 1.12
ral: +takes a step to his left,
turns the steering wheel to left->
fig: #fig 4b
10 RAL: [+hm?
-> +starts walking to left
and pushing the hand pallet
truck towards the middle of the
play house->



Fig 4b

11 (.)

12 VAL: ->^+vedä suaraan.
put straight

->^moves right arm horizontally
towards the play house,
almost touches the wall->
ral: ->+

fig: #Fig4c



Fig 4c



Fig 4d

13 (.)

14 VAL: tä- #^ +(.) (- -) sinne jus[tii
he- (.) (- -) **there right**

->^

ral: -> +walks towards right and pulls the hand truck under the
playhouse->>
#Fig 4d

15 RAL: [↑täällä.=
here

16 VAL: =JOO sillai suuraa.
yes like that straight

As Valle performs the gesture (l. 8), he stretches his right hand towards the left side of the playhouse, where both participants are standing, in front of Ralf (fig 4a). The gesture co-occurs with the last two words of the TCU and extends beyond the transition space (l. 8-9). As soon as the gesture is over, Ralf takes a step to his left (l. 9) and starts turning the steering wheel of the hand truck to the left. His actions thus show that he has paid attention to Valle's embodied instruction. However, the truck is not yet in a straight position (fig 4b).

Valle continues the turn with a reiteration of the verbal TCU (l. 9), which is elaborated with a gesture that depicts the movement of positioning the truck under the house. Also this gesture is performed in front of Ralf (fig 4c). It extends into the turn transition space and is completed only in the beginning of

line 12 where Valle moves his arm back to the side of his body. Concurrently with Valle's gesture, Ralf starts walking to his left towards the space behind Valle and pushes the hand pallet truck towards the middle of the playhouse (l. 10). Interestingly, he also produces a *hm?*-turn that Valle treats as an other-initiation of repair. In his next turn (l. 12) Valle repeats both the verbal TCU (*vedä suoraan*, put straight) and the gesture. With this turn Valle performs the instruction again, while also doing a repair. This time the gesture is noticeably larger than the previous version and it is performed closer to the playhouse: Valle leans forward and gestures towards the middle of the playhouse (fig 4d), the precise location where the hand truck should be directed. This last gesture thus depicts in the most elaborate way the correct positioning of the truck. These features of the gesture's performance maximize its "witnessability" (Nevile 2007, de Stefani 2018): the gesture is designed to be seen and adapted to the local context. In addition to the gesture's timing, also its spatial positioning and the involvement of the whole body in its performance work towards securing Ralf's understanding of the instruction by giving more specific guidance. This way they enable the recipient to carry out the projected action in the expected way. Importantly, Ralf performs the required action right after this last instruction (l. 12). Valle's close monitoring of his actions is visible in his reaction: he abandons his ongoing TCU and produces a sequence-closing third, a positive assessment, which is temporally fitted to Ralf's actions (*sinne justiin*, there right) (see Schegloff 2007, Keevallik 2018).

In sum, all three focal gestures in extract 4 represent the action of moving the hand pallet truck into a correct position with a horizontal hand movement, but their trajectories are shaped by the local circumstances. The spatial features of the gesture's performance indexically highlight where the hand truck should be positioned, while at the same time depicting, even modelling (see Enfield 2009, Keevallik 2018) the movements required for positioning the hand truck correctly. Importantly, the gestures provide information that is not referred to in talk, but that is necessary for performing the

projected next actions in an appropriate way. As part of multimodal action packages, the gestures work to secure mutual understanding of the instructions in a situation in which the progressivity of the ongoing activity is important for both participants.

Extracts 2, 3 and 4 demonstrate how the depictive gestures performed in TCU-final position, together with other embodied resources, provide additional information on the verbal contents of the ongoing turn. They work towards securing understanding and support the recipient in performing the relevant next action.

5 Summary and discussion

This paper has contributed to the study of the temporality and spatiality of embodied action (see e.g. Keevallik 2018:10) by analyzing depictive gestures that are produced during the final components of the ongoing verbal TCU and extended into the following turn transition space. The analysis has shown that depictive gestures are carefully timed to occur in this position to maximize their noticeability and to extend the temporal boundaries of verbal TCUs and the actions accomplished by them. The depictive gestures in focus elaborate the verbal TCUs: they may, for example, provide a visual representation of an action that is referred to in the TCU, display specific features of actions talked about that are not referred to verbally or perform bodily enactments that model projected next actions. We propose that timed and performed in this way, the gestures contribute to the multimodal action package that they are part of in a specific way: they work to facilitate action ascription and support the recipient in producing the relevant next action. As Levinson (2013) has elegantly discussed, one central challenge for participants in interaction is to assign at least one major action to a turn that they are receiving. This action ascription is observable in how the recipients respond to turns and what kind of understanding is

treated as sufficient for the interaction to progress. Turn design and turn location in the ongoing sequence and as part of a possible ongoing interactional project are central features contributing to action ascription (Levinson 2013).

The focus here has been on gestures that occur in first actions that project a certain restricted type of a next action. Multimodal requests and instructions (illustrated in extracts 1, 2 and 4) project a certain type of complying embodied action as the relevant next contribution. An information seeking question, on the other hand (illustrated in extract 3), projects a response that provides the information asked for. In the cases in our collection, these next actions need to be performed for the ongoing activity to proceed. Situated analysis of the examples presented here has aimed to show that the depictive gestures produced in these environments work towards securing mutual understanding and support the progressivity of the activity.

The examples illustrate how different dimensions of the gestures' performance contribute to this. First, the gestures co-occur with other embodied resources, in particular gaze and the position or movement of the whole body in the physical environment, which are assembled to form multimodal displays that are designed for depiction, for displaying actions or scenes that are referred to in the verbal utterances that they co-occur with (cf. Kendon 2004, Clark 2016). Depictive gestures provide a visible representation of some action that is relevant in the larger activity by, for instance, displaying a possible future action referred to in talk (Ex. 3) or modeling (the trajectory of) the projected next action (Ex. 2 and 4). As visible representations the gestures draw from conventional shapes (e.g. the scissors gesture) and specific features of the local environment (e.g. adjustments to direction and trajectory of movement, using activity-relevant objects as resources, ex. 1, 2 and 4). The gestures contribute to making the meaning of the verbal utterance more transparent and making the action that it carries more

recognizable. Second, the TCU-final positioning of the gestures enables the current speaker to extend the boundaries of the action (Keevallik 2018) and secure the witnessability of the gesture (Nevile 2007, De Stefani 2018). This enables the recipient to draw on the gesture in action ascription and supports smooth transitions between turns and actions (see Levinson 2013). Third, the data show that the recipients orient to the gesture (e.g. through gaze and small adjustments of the body) and make interactional efforts to demonstrate understanding by initiating the next action without delay. When their actions do not indicate sufficient understanding of the projected action, as is the case in the instruction sequence in extract 4, further instructions incorporating gestural models are provided and these can become progressively more elaborate until mutual understanding is reached. Importantly, each time the trajectory of the gesture is locally adjusted to model the actions that should be performed relative to the current configuration of the participants and the objects in the material environment. Thus, the situated use of depictive gestures also shows how first actions such as instructions are sensitive to the activity environment and local circumstances in which they are produced (see also Mondada 2018, de Stefani 2018).

The analysis has shown how the situated use of depictive gestures contributes to mutual understanding in situations involving asymmetry. In our data, the gestures are usually (but not exclusively) performed by first language speakers in interactions with speakers of Finnish as a second language and seem to be designed for recipients who may have trouble in understanding the first action that the gesture is part of. The use of the gesture may exhibit the L1 speaker's sensitivity to observable linguistic trouble, as in ex. 3, but it can also be related to other types of phenomena that interfere with the progressivity of the activity, ex. technical problems (ex. 2) or different understandings of how to move forward with a complex task (ex. 4). The use of the gesture in the multimodal action package seems to be an indication of the current speaker's sensitivity to the possibility of their turn not being understood and provide one

way of pre-empting problems of understanding (see also Svennevig 2010) in situations that involve different types of asymmetry between the participants. More generally, the examples show that the current speaker takes responsibility for making the turn recognisable to the recipient (Kendrick 2015, Schegloff 2007). The analysis suggests that in addition to local concerns, the use of depictive gestures in TCU-final positions is related to socially distributed knowledge and the relative rights and responsibilities of the participants in their ongoing interactional projects (Stivers, Mondada and Steensig 2011; Levinson 2013). While only one of the extracts (ex. 3) exhibits orientation to linguistic asymmetry between the participants, in all cases the participants orient to the current speaker's expertise and entitlement to direct the course of action.

The findings complement earlier research in showing how depictive gestures work as part of multimodal gestalts (Mondada 2014, 2018) and exhibit recurrent features while at the same time being embedded in the local ecologies of the ongoing activities. We have shown how the timing and trajectory of the gestures relative to the verbal TCU contribute to the intelligibility of the action and secure the progressivity of the activity. Overall, the findings contribute to understanding action ascription. Specifically, they shed new light on the way the TCU-final depictive gestures serve as cues for the recipient to assign an action to the turn-in-progress and enable the participants to reach a good enough understanding to proceed with the unfolding sequence and course of action. The findings underscore the need for further research on the temporal trajectories of depictive gestures relative to emergent TCUs and turn spaces. Further studies may show how depictive gestures combined with other turn constructional resources figure in multimodal courses of action in situations where different social and interactional dynamics are at play.

References

- Bolden, G. 2003. Multiple modalities in collaborative turn sequences. *Gesture* 3 (2):187-212. doi:10.1075/gest.3.2.04bol.
- Chui, K. 2005. Temporal patterning of speech and iconic gestures in conversational discourse. *Journal of Pragmatics* 37(6): 871–887.
- Clark, H. 2016. Depicting as a Method of Communication. *Psychological review* 123 (3): 324–347.
- Deppermann, A. 2013. Multimodal interaction from a conversation analytic perspective. *Journal of Pragmatics* 46 (1): 1–7. doi:10.1016/j.pragma.2012.11.014.
- De Stefani, E. 2018. Formulation direction: Navigational instructions in driving lessons. *International Journal of Applied Linguistics* 28: 283–303.
- Enfield, N. J. 2009. *The anatomy of meaning: Speech, gesture, and composite utterances*. Cambridge: Cambridge University Press.
- Floyd, S., Manrique, E., Rossi, G., and Torreira, F. 2014. Timing of visual bodily behavior in repair sequences: Evidence from three languages. *Discourse Processes* 53 (3):175-204. doi:10.1080/0163853X.2014.992680.
- Ford, C.E., Fox, B.A. and Thompson, S.A. 1996. Practices in the construction of turns: The "TCU" revisited. *Pragmatics* 6 (3): 427-454.
- Gardner, R. 2007. The right connections: Acknowledging epistemic progression in talk. *Language in Society* 36 (3): 319-341. doi:10.1017/S0047404507070169.
- Goodwin, C. 1980. Restarts, Pauses, and the Achievement of a State of Mutual Gaze at Turn-Beginning. *Sociological Inquiry* 50 (3-4): 272–302. doi:10.1111/j.1475-682X.1980.tb00023.x.
- Goodwin, C. 1981. *Conversational Organization: Interaction between Speakers and Hearers*. London: Academic Press.
- Goodwin, C. 2003. Conversational Frameworks for the Accomplishment of Meaning in Aphasia. In *Conversation and Brain Damage*, ed. C. Goodwin, 90–116. New York: Oxford University Press.
- Goodwin, C. 2000. Action and embodiment within situated human interaction. *Journal of Pragmatics* 32 (10):1489–1522. doi:10.1016/S0378-2166(99)00096-x.
- Goodwin, C. 2007. Environmentally coupled gestures. In *Gesture and the dynamic dimensions of language*, ed. E. Levy, J. Cassell and S. Duncan, 195–212. Amsterdam: John Benjamins.
- Keevallik, L. 2018. What Does Embodied Interaction Tell Us About Grammar?, *Research on Language and Social Interaction* 51 (1):1–21. doi:10.1080/08351813.2018.1413887.
- Kendon, A. 2004. *Gesture: Visible action as utterance*. Cambridge: Cambridge University Press.

- Kendrick, K. H., 2015. The intersection of turn-taking and repair: The timing of other-initiations of repair in conversation. *Frontiers in Psychology* 6 (250): n. pag. doi:10.3389/fpsyg.2015.00250.
- Kendrick, K. H., and Torreira, F. (2015). The timing and construction of preference: A quantitative study. *Discourse Processes* 52 (4):255-289. doi:10.1080/0163853X.2014.955997.
- Lerner, L. 2004. Collaborative turn sequences. In *Conversation Analysis: Studies from the first generation*, ed. G. H. Lerner, 225-256. Amsterdam: John Benjamins.
- Levinson, S. C. 2013. Action formation and ascription. In *The Handbook of Conversation Analysis*, eds. T. Stivers and J. Sidnell, 103–130. Wiley-Blackwell.
- McNeill, D. 1985. So you think gestures are nonverbal? *Psychological Review* 92: 350–371.
- McNeill, D. 2005. *Gesture and thought*. Chicago: University of Chicago Press.
- Mondada, L. 2006. Participants' online analysis and multimodal practices: projecting the end of the turn and the closing of the sequence. *Discourse Studies* 8 (1):117-129. doi:10.1177/1461445606059561.
- Mondada, L. 2007. Multimodal resources for turn-taking: Pointing and the emergence of possible next speakers. *Discourse Studies* 9 (2):194–225. doi:10.1177/1461445607075346.
- Mondada, L. 2013. Coordinating mobile action in real time: The timely organisation of directives in video games. In *Interaction and Mobility*, ed. P. Haddington, L. Mondada and M. Nevile, 300-342. Berlin/Boston: DE GRUYTER.
- Mondada, L. 2014. The local constitution of multimodal resources for social interaction. *Journal of Pragmatics* 65:137–156. doi:10.1016/j.pragma.2014.04.004.
- Mondada, L. 2016. Challenges of multimodality: Language and the body in social interaction. *Journal of Sociolinguistics* 20 (3):336–366. doi:10.1111/josl.1_12177.
- Mondada, L. 2018. Multiple Temporalities of Language and Body in Interaction: Challenges for Transcribing Multimodality. *Research on Language and Social Interaction* 51(1): 85-106.
- Mondada, L. n.d. Conventions for multimodal transcription.
https://franzoestik.philhist.unibas.ch/fileadmin/user_upload/franzoestik/mondada_multimodal_conventions.pdf
- Mori, J., and Hayashi, M. 2006. The achievement of intersubjectivity through embodied completions: A study of interactions between first and second language speakers. *Applied Linguistics* 27 (2):195-219. doi:10.1093/applin/aml014.
- Nevile, M. 2007. Seeing the point: Attention and participation in airline cockpit. In L. Mondada & V. Markaki (Eds.), *Interacting bodies*. Online Proceedings of the 2nd International Conference of the International Society for Gesture Studies.

Olsher, D. 2004. Talk and gesture: The embodied completion of sequential actions in spoken interaction. In *Second Language Conversations*, ed. R. Gardner and J. Wagner, 221-245. London: Continuum.

Pomerantz, A. 1984. Agreeing and disagreeing with assessments: some features of preferred/dispreferred turn shapes. In *Structures of Social Action: Studies in Conversation Analysis*, ed. J. M. Atkinson and J. Heritage, 57-101. Cambridge: Cambridge University Press.

Robinson, J. D. 2006. Managing trouble responsibility and relationships during conversational repair. *Communication Monographs* 73 (2):137-161. doi:10.1080/03637750600581206.

Sacks, H., and Schegloff, E. A. 2002. Home position. *Gesture* 2 (2):133-146. doi:10.1075/gest.2.2.02sac.

Sacks, H., Schegloff, E. A., and Jefferson, G. 1974. A simplest systematics for the organization of turn-taking for conversation. *Language* 50 (4):696-735. doi:10.1353/lan.1974.0010.

Schegloff, E. A. 1984. On some gestures' relation to talk. In *Structures of social action*, ed. J. M. Atkinson and J. Heritage, 266-295. Cambridge: Cambridge University Press.

Schegloff, E. A. 2007. *Sequence organization in interaction*. Cambridge: Cambridge University Press. doi:10.1017/CBO9780511791208.

Schegloff, E. A., Jefferson, G., and Sacks, H. 1977. The preference for self-correction in the organization of repair in conversation. *Language* 53 (2):361-382. doi:10.2307/413107.

Stivers, T., and Robinson, J. D. 2006. A preference for progressivity in interaction. *Language in Society* 35 (3):367-392. doi:10.1017/S0047404506060179.

Streeck, J. 1993. Gesture as communication I: Its coordination with gaze and speech. *Communication Monographs* 60 (4):275-299. doi:10.1080/03637759309376314.

Streeck, J. 2009. Forward-gesturing. *Discourse Processes* 46 (2-3):161-179. doi:10.1080/01638530902728793.

Streeck, J., and Hartge, U. 1992. Previews: Gestures at the transition place. In *The contextualization of language*, ed. P. Auer and A. di Luzio, 138-158. Amsterdam: John Benjamins.

Streeck, J., Goodwin, C., LeBaron, C. 2011. Embodied interaction in the material world: An Introduction. In *Embodied interaction: language and body in the material world*, ed. J. Streeck, C. Goodwin and C. LeBaron, 1-26. Cambridge: Cambridge University Press.

Svennevig, J. 2010. Pre-empting reference problems in conversation. *Language in Society* 39 (2):173-202. doi:10.1017/S0047404510000060.

Wagner, P., Malisz, Z., and Stefan, K. 2014. Gesture and speech in interaction: An overview. *Speech Communication* 57: 209-232. 10.1016/j.specom.2013.09.008.