Nonverbal Behavior as Turn Constructional Units in Aphasic Conversation¹

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1. Introduction

Over the course of individual development the role of gestures in interaction changes. In the beginning of ontogenesis, during the first year of life, nonverbal behavior is the main means of interaction: if one looks at the interaction between a baby and a parent, one perceives that it comes across as gaze, as whole body movements, and perhaps as vocal elements (Corballis, 2003). Although language development begins in the uterus, speech usually begins to develop in the beginning of the child's second year. There are different syndromes in which speech does not develop in the typical manner, and it takes much longer to achieve speech and language skills. There are also diseases in which speech and language deteriorate, and aphasia is one of these problems. Aphasia is an acquired language deficit that crosses all language modalities and may or may not be complicated by another sequel of brain damage.

Several, mainly experimental, studies maintain that people with aphasia use more nonverbal behavior than do non-aphasic persons (Larkins & Webster, 1981; Feyereisen, 1983; Ahlsén, 1985; Smith, 1987; Le May, David & Thomas, 1988; Herrmann, Koch, Johannsen-Horbach & Wallesh, 1989; Hadar, 1991). In these studies, nonverbal behavior refers to the movements of hands, head (including gaze), face, body, and sometimes even the movements of feet. Many of these studies argue that aphasic speakers compensate for their verbal deficiency by increasing the frequency of their nonverbal behavior (e.g. Smith, 1987; Feyereisen, Barter, Goossens & Clerebaut 1988; Le May, David & Thomas, 1988; Herrmann, Koch, Johannsen-Horbach & Wallesh, 1989; Ahlsén, 1991; Hadar, 1991). In addition, there is at least one longitudinal study reported by Ahlsén (1991) of an aphasic person whose verbal communication increased during the 18-month period of language training while the use of body communication decreased during that period.

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Some qualitative studies have analyzed interaction between a person with aphasia and a speech therapist, a spouse or a significant other (Wilkinson, 1995; Klippi, 1996; Laakso, 1997: Bryan, McIntosh & Brown 1998: Goodwin, 1995, 2003: Goodwin, Goodwin & Olsher 2002; Oelschlaeger & Damico, 2000; among others). The results of these studies have revealed the importance of nonverbal behavior in interaction. Furthermore, aphasic word searches have been studied to some degree in conversational context and often from the point of view of interaction (see e.g. Milroy & Perkins, 1992; Ferguson, 1994; Wilkinson, 1995; Laakso, 1997, 1999, 2003; Laakso & Klippi, 1999; Klippi, 2003; Helasvuo, Laakso & Sorjonen, 2004). Based on these studies, word searches of aphasic persons have similar features to those of non-aphasic speakers. Before the target word, there are different signs that indicate the ongoing search. According to Laakso & Lehtola (2003), the most typical signs are repetition of particles or pronouns, pauses, and hesitations. Furthermore, they suggest that search questions and directing gaze to the addressee seem to be the most efficient ways to start collaborative word search. Additionally, in a recent clinical case study, it was observed that iconic gestures significantly facilitated object naming by an aphasic person (Rose, Douglas & Matyas, 2002). A year later, Rose & Douglas (2003) reported that aphasic speakers, in spite of apraxia, were able to produce meaningful gestures in conversation, and they could compensate their verbal expression with gestures too.

This study uses conversation analysis (CA) to examine how different kinds of nonverbal behavior may constitute turn constructional units, either as a distinctive unit in the turn, or as combined with verbal turn constructional units. From the aphasiological point of view the central notion of CA, sequential implicativeness, is essential, and it has several implications for aphasia research. It is suggested that by an adjacently positioned second turn, a speaker can show that s/he understood what a prior speaker aimed at in the first turn and that s/he is willing to participate (Scheggloff & Sacks, 1973). Conversely, the first speaker can, by inspecting the second pair part, see if the first part has been understood. Hence the second pair part may display either understanding or failure to understand.

In the CA literature, turn constructional units are defined as linguistic units – a sentence, clause, phrase or other lexical construction – that can be used to construct a turn. In addition Heritage (1989) mentions the "quasi- and non-lexical elements" of conversation, but these elements refer to pauses, hesitations, and other vocal elements in speech, not to nonverbal behavior. In addition, a turn allocation component (refers to TRP, transition relevance places) has been defined as having syntactic basis, in the early papers of conversation analysis. However, in his 1996 paper, Schegloff has discussed the elements that compose turn constructional units. He mentions that there is evidence that gesture is co-organized with the talk which it regularly accompanies. Furthermore, Ford and Thompson (1996) and Selting (1998) have discussed turn constructional units from the point of view of prosody. In fact, some recent studies (e.g. Goodwin, 1995, 1996, 2000, 2003) have shown the essential role of nonverbal behavior in the conversation with a person with aphasia. Due to the linguistic problems of persons with aphasia, it seems inevitable to include aspects of nonverbal behavior in the analysis of aphasic conversation. However, until now rather few studies have focused on the analysis of the role of nonverbal behavior. If they have, the analysis has mostly been done quantitatively, in group studies, and the nonverbal behavior has been separated from their sequential context. For this reason it is impossible to further analyze the nature of nonverbal behaviors and their role in the construction of meanings in conversation. In this paper, nonverbal behavior refers to the use of any body part for interactive and communicative purposes (cf. Streeck & Hartage, 1992).

Based on earlier research (Klippi, 1996; Laakso & Klippi, 1999; Klippi, 2003; Klippi & Ahopalo, forthcoming) and the data shown in this paper, I will suggest a distinction between local and global nonverbal behavior. Local nonverbal behavior refers to gesture or other nonverbal behavior in a local context, as a part of a turn. A local nonverbal behavior (or a local gesture) often carries a meaning that can be translated into a lexical meaning. Iconic and pantomimic gestures, emblems and deictic gestures as well as head nods and headshakes are typical forms of local nonverbal behavior. On the other hand, global nonverbal behavior refers to such behavior that takes place in the sequential level. Typically global nonverbal behavior is connected to turn allocation and turn taking. In addition, global types of nonverbal behavior can be seen especially in conversations with emotional and affective loading. In these types of conversations, the interlocutors convey emotive and attitudinal meanings through a number of nonverbal means such as body postures, facial expressions and gazes. Thus far, only few studies have especially focused on combinations of these embodied practices in face-to-face interaction (Haddington, 2005).

In the following, I will show some examples with different types of gestures found in conversations with people with aphasia. In the following, I will show three examples that represent typical local gestures and one example with global nonverbal behavior found in the conversational use of persons with aphasia. The examples come from free conversations with people with aphasia collected from aphasia therapy sessions (see Klippi, 1996; Klippi & Ahopalo, forthcoming).

2. Local nonverbal behavior

The first example is a part of a longer conversation where a person with aphasia, PK, tells about her wish to restart her painting hobby to the therapist (T). While speaking she makes an iconic gesture by drawing a rectangle in the air².

Example 1. Iconic gesture: rectangle

01 T: muistaks+mä oikein että sä maalasit remember-1-Q I right PRT you paint–PST-2 do I rememeber right that you painted

02 PK: et sitä mä aina ajattelin ((et kato)) ((mullahan on kato kaikki että)) PRT PRT I always think-PST-1 PRT PRT I-ADE-is-CLI is PRT all PRT so I always think ((that you see)) ((I have you see all so)) ((raises hands up)) ((draws a rectangle))

03 [ku mä vaan ((alotan)) että] when I PRT begin-1 PRT ((that only when I just start so)) ((points right and opens hands))

² The key to transcription conventions is at the end of the article

04 T: [nii:i] PRT yeah

In this case, the focus of the analysis is on the iconic gesture that she uses in her turn. There is no observable problem in the interaction between the participants. In line 2, the gesture begins when PK raises both hands. When she utters the words mullahan on (I have you see), her hands are in front of her and her index fingers are up. Simultaneously, when she says kato kaikki (you see all), she draws a rectangle in the air and looks at her hands when drawing it (see e.g. Streeck, 1993). It is difficult to imagine a gesture for a word all and if such gesture exists, it must be very abstract. The gesture in this case is something more concrete than the abstract concept all. She draws a rectangle as if it were a frame of a picture or maybe a painting. Clearly, it is something that refers more specifically to the topic "painting". The combination of the hand movements and the lexical parts of the turn is interesting: the hand movements add something to the lexical content of the turn, and the meaning of the turn is clearly more specific with the hand movements than without them (Kendon, 2000). In line 3, she continues by explaining that only when I just start, at the same time, pointing upwards with her right hand and when she utters the word start she opens her hands. The gestures are integrated in her verbal expression smoothly without pauses. In this case, the iconic gesture (rectangle) is a meaningful and a visible part of the turn, and the visible gesture combined with the verbal part of the turn form one of the turn constructional units in the turn.

Local nonverbal behavior, for instance a hand gesture, seems to be a typical part of the word search. The second example is an occasion of word search. In this example, PK searches for the verb *lypsää* (to milk).

Example 2. Pantomimic gesture: to milk Paper			
01 PK : ja hän (0.7) alkala ($\overline{(0.7)}$ alkala totanoin ## (3.0) alkala (1.2)		
and he begin	begin PRT begin		
and he begins	begins like begins		
	т		
02 : mitä se ((tsss tsss tsss	(0.6)))[\$mitä se tek-\$ (he he)] \$ne		
what it	what it they		
what does she((tss tss	tss)) what is she doi- they		
((milks))		
03 T:	[\$just joo\$ (he he he)]		
	yes yes (he he he)		
04 PK : tehldälän\$ (he he) do-PASS do (he he)			
05 T: lyp- (0.6) mil-			

T_____ 06 PK : lypsä- (0.6) ((lypsä- (0.6) [joo] (0.8) lyps- (0.5))) milk milk [yes] mil-((writes down)) 07 T: [lypsälä] milk 08 PK :lypsälä maitola milk milk-PAR milks milk

Speaker PK is talking about milking and earlier in the conversation she has produced the word *milk*. She continues to say that *she begins* but ends in trouble, because she has difficulty finding the verb "milking". There are several typical signs or prospective indexicals (Hayashi, 2003) of the ongoing word search: pauses, repetitions, filler words (e.g. like etc.). As the word search continues beyond the pauses, repetitions and filler words she begins to gesticulate and pretends milking. She produces pantomimic gestures of milking with her both hands and at the same time she produces onomatopoetic vocal sounds *tsss tss tss* which sound as if sprays of milk were hitting the bucket. After that she rephrases her *wh*-question and asks with a smiling voice *what does he do* (line 2) and begins to laugh. During the laugh she turns her gaze to the addressee. Furthermore, she makes a self-repair once again and changes the end of the question phrase as an elliptic passive construction (*What*) they do.

In line 3 it can be seen that the addressee most likely interprets the meaning of the gesturing and of the vocalizing right as indicated by the addressee's laughing, showing understanding of PK's gestures, and confirming *yes yes he he he.* Furthermore, she reacts to PK's question and gives the first syllable of the target verb *lyp-* (milk). This hint was sufficient enough to PK to begin to process the target word. She begins to articulate the verb *lypsä-* although she is unable to produce it completely. She even writes the verb down to a piece of paper and tries to repeat the word, but it still remains uncompleted. At this point, the addressee makes a direct other-repair and gives the whole word *lypsää*. PK nods and repeats the verb adding the word *maitoa* (milk) to her utterance.

In this case the gesture clearly performs a compensatory function in that the aphasic party could not produce the verb by herself, and thus she began to gesticulate milking. By doing so she was able to make visible the action of milking to the addressee. She could even associate the sound of milking to the gesturing producing onomatopoetic vocal effects that served also as prospective indexicals of the searched word to the addressee. Finally, the aphasic speaker turned her gaze to the addressee and formulated a help-seeking question (see also Klippi & Ahopalo, forthcoming). This is an explicit way, and perhaps one of the most frequent ways, to make the word search as a collaborative action and to get the interlocutor to join in the word search (Laakso & Klippi, 2001; Laakso & Lehtola, 2003). In this case, PK produced the needed piece of the turn construction unit with hands and vocalization. What is interesting is that her nonverbal behavior revealed that she had semantic knowledge on the activity of milking, but probably her difficulty with word processing was more on the phonological level or in the access to the phonological knowledge of the target word (e.g. Lesser, 1989).

The next example took place in an aphasia group with five participants (JS, M, E, P and the therapist, T). The central person in this example is JS, who had rather severe non-fluent aphasia. An interesting dissociation in his aphasic syndrome was that he was able to write numbers, but he was unable to utter them verbally. Thus, he used a systematic writing strategy whenever he needed to express numerals. He wrote numbers down in the piece of paper and showed them to his interlocutor(s).

Example 3. Pointing gesture: look

40	T: [mi]ten pitkä matka Moskovalsta. how long way Moscow-ELA [ho]w far from Moscow
(1.5)
41 (h	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
42	M:=°kaheksan kymmentä°= eight ten =°eighty°=
43	<i>map</i> T =kaheksan sataa.= eight hundred =eight hundred.=
44	map M: = [joo] [ye:s]

The topic of the conversation is JS's former work in Russia. This sequence is a part of a longer conversation in aphasia group. In this sequence, the participants try to find out the geographical location of the town called Sarja (see also Klippi, 2003). This excerpt begins with the therapist's elliptic question, *how far from Moscow* and the question refers back to the preceding conversation and it can be regarded as a request for clarification rather than to introduce a new topic. The question (line 40) formed the first part of an adjacency pair that created an expectation of an answer for the second part of the adjacency pair. However, the sigh at the beginning of JS's turn indicated that he is in trouble. He turns his gaze to the therapist and tries to begin the vocalization, but it was beyond his verbal abilities, and consequently he turned his gaze to the paper and pointed to it uttering *look.(.)there*. (line 41). This extract shows how JS relied on an external aid to achieve the necessary response by pointing to the paper on the table where he had previously written numbers down.

It is noteworthy that the function of the pointing gesture in this sequential context is not connected to the topic of the conversation, but the function of the gesture and of the verbal content of the turn is to direct the orientation of the participants to the numbers which JS had earlier written on the paper. The turn (line 41) consists of lexical units and with the gesture, but from the point of view of topical development, the meaningful contents of the turn was written on the paper and the participants read it and reacted to the numbers they have read, not to the pointing gesture *per se*.

3. Global nonverbal behavior

The following example is an excerpt from a part of a conversation in an aphasia group. There are four persons in the group (R, P, M and the therapist, T). All aphasic participants, R. P and M, had rather severe non-fluent Broca's aphasia. The topic of the conversation deals with a place (a recreation resort), which P had visited in the previous summer. In line 1 the therapist asks R whether he has visited the place. R's reply is firm stating that he has not visited it. The therapist continues and suggests that R has (evidently) heard about the place. However, P enters the conversation (line 6) and gazing at R he claims that R had visited the place. Subsequently, a dispute sequence follows, in which P claims that R has visited the place, whereas R sticks to his position. The dispute emerged mainly with P's claims of 'yes, you have' and R's reply 'no', and the turns were combined with head nods or head shake. (Due to restricted space, only part of the sequence is presented here only partly. It will be analyzed in detail in Klippi, forthcoming). Of special interest is the end of the sequence (lines 21-27) where the arguing sank into mainly silent nonverbal behavior that lasted 7.1 seconds. In line 21 (24 seconds from the beginning of the sequence) R produces his final reply 'no no' referring to the fact that he has not visited the place. From line 22, there seems to be a problem, how to get rid of this persevering quarrel. P turns his gaze down and produces some vocal elements and changes his position, but turns his gaze back at R and they stare each other for a while (line 22). From the point of view of this paper, R's nonverbal behavior in line 26 is interesting. P turns again his gaze at R, and R gazes at P and nods his head. In this sequential position, the head nod is by no means a sign of approval. Rather it is a confirmation to his previous turns (no, no), and the lexical translation could be "that's it" This head nod is R's final verbal turn of this topic, and P gives up by turning his gaze at the window and groaning the particle *noh* (well) in a falling intonation.

Example 4. Head nod 01 T: ((ook+sä Raine käyny siel[lä)) ((points to R))		
((have you Raine	visited the[re))	
02 R:	((ei=)) ((shakes head)) ((no))	
N 03 T: ((=ei=)) ((head down)) ((no))		
04 R: ((=ei=)) ((=no=))		
R 05 T: ((=mut sä oot kuull ((head up)) ((=but you have he	,P u sii[tä)) eard about[it))	
06 P:	R(([olethan=))	

((yes you have=))		
21 R: ((ei-ei)) ((body back)) ((no-no))	24 s.	
downX 22 P: uh (1.3) ((mhm.)) ((changes body position))	25 s.	
P 23 R: hh. (2.6)	26 s.	
down 24 R: khh.	29 s.	
25 P: ((turns gaze to R))	30 s.	
26 R: [((turns gaze to P))] [((head nod))]	32-34 s.	
windowt 27 P: ((body back)) hmm (.)[noh] [well]	35-37 s.	

((head nod))

This example vividly shows several embodied practices connected with the verbal part of the turns and even without verbal contribution. In spite of the very limited lexical content of this sequence, the interlocutors can show their stance taking with their gazes, their body positions and their head movements. In addition, they were able to negotiated a way out from their dispute with these public embodied practices.

4. Concluding remarks

With the help of these few examples, my aim has been to demonstrate the role of nonverbal behavior in aphasic conversation and to discuss the relationship between verbal and nonverbal behavior and turn construction units. The elementary difference between verbal and nonverbal behavior is the mode of their performance. Nonverbal behavior is visually perceived whereas words and other vocal elements are auditoryly perceived. The definition of the turn construction unit is based on linguistic units. It seems that the definition should be carefully rethought, especially when people with communication disorders are studied.

Based on the earlier research (Goodwin, 1995, 1996, 2000, 2003; Goodwin, Goodwin & Olsher 2002; Klippi, 1996; Klippi & Ahopalo, forthcoming) it is a well established argument that nonverbal behavior forms an important part of the interactive semiotic resources in aphasic conversation. Furthermore, several studies have shown that people with aphasia use more nonverbal behavior in their communication than non-aphasic persons (Larkins & Webster, 1981; Feyereisen, 1983; Ahlsén, 1985; Smith, 1987; Le May, David & Thomas, 1988; Herrmann, Koch, Johannsen-Horbach & Wallesh, 1989; Hadar, 1991). However, this finding cannot be generalized to individual persons with aphasia. According to my clinical experience, some persons with aphasia use very rich and

complex nonverbal behavior either to compensate their speech problems or to build their conversational turns more meaningful. On the other hand, I have met many persons with aphasia who are not very expressive in terms of their nonverbal behavior. What seems to be rather consistent, though, is that in cases of problems with word finding one can observe some kinds of nonverbal behavior during the word search activity, especially in the movements of fingers, e.g. tapping the table or circulative motions. In some persons with aphasia, the movements become iconic, pantomimic or deictic gestures (Klippi & Ahopalo, forthcoming). In these cases, they may act as prospective indexicals of the target word, and if they are expressive enough, they can reveal the target word to the interlocutor already during the search, before the speaker her/himself has an access to the word. In addition, it may be that different persons have different strategies to overcome word searches, and some people may rely more on linguistic resources whereas others may try to recruit other kinds of semiotic resources, for example gestures, into conversation.

From the structural point of view, nonverbal behavior can form a turn constructional unit either simultaneously with the verbal units, or nonverbal behavior can constitute a pure nonverbal turn, a visually perceived turn constructional unit(s). However, the sequential organization of a nonverbal element in a turn and in a sequence is essential in order to become a meaningful interactive act (Goodwin, Goodwin & Olsher, 2002; Klippi, 2003). The examples in this paper show that nonverbal elements are skillfully coordinated with other semiotic resources, e.g. gaze, prosody of vocal and articulated elements, and with movements of body.

In this paper, I have suggested that it is possible to make a distinction between local and global nonverbal behavior. From the functional point of view, it is evident that nonverbal behavior with or without the verbal part of the turn conveys meanings in conversation with people with aphasia. All examples in this paper show different ways of building meanings with the help of nonverbal behavior in the turns. A nonverbal behavior (e.g. gesture) can add some important information to the lexical contents of the turn (example 1). Local behavior, for instance a gesture, can compensate a word or larger verbal construction in the turn. Furthermore, gestures can reveal some prospective features (prospective indexicals) of the target word before the articulated word will be produced (example 2). Local nonverbal behavior may also direct the interlocutors' orientation to an important piece of information in the context (example 3), for instance written material, numerals, pictures, etc. Global nonverbal behavior is connected to turn allocation and turn taking, and in addition they may carry complex emotional or affective information (example 4) in concert with words or even without words.

In the clinical contexts, there is a growing pressure that speech language pathologists should be able to measure the communicative effectiveness of people with aphasia. My understanding is that in order to be able to show the communicative effectiveness, we should take nonverbal behavior into account, too. It is especially significant in persons with very limited verbal expression, but also in the occasions of speech turbulences, for instance in word searches. It is obvious that there is a great need for further research on the relationship between verbal and nonverbal behavior in aphasic conversation, but there is also a need for research where the other party of the conversation does not have speech at all.

Key to transcription conventions:

Gaze:	mapTpaperT
Original Finnish talk:	J:(hhh. 4.3) ö-ö (1.6)((kato.(.) tossa.))=
English gloss:	look there
Translation into English:	(hhh. 4.3) uh-uh(1.6)((look.(.) there.))=
Nonverbal behavior:	((moves paper, points paper))

Gaze: looking the map is noted by marking map_____ Gaze: turning gaze to T is noted by marking ...T Gaze: when speakers have a mutual gaze it is noted by marking X____ Pauses are given in brackets in seconds (1.3) Square brackets indicate [over]lapped speech, for example [speech] Nonverbal behavior is written within double brackets ((points paper)) Falling intonation is indicated by . Low voice is indicated by °degree symbols around the relevant words°

Laughing voice is indicated by \$ dollar symbols around the relevant words\$

Cut offs are indicated by a dash, for example: lypsä-

Out breath is indicated by hhh.

Adjacent utterances without a pause between them are indicated by = Sounds that are stretched are indicated by colons; for example: nii:i Words uttered together are indicated by + for example: muistaks+mä

References

- Ahlsén, E. (1985). *Discourse patterns in aphasia*. Gothenburg monographs in linguistics5. University of Göteborg. Department of Linguistics.
- Ahlsén, E. (1991). Body communication as compensation for speech in a Wernicke's aphasic a longitudinal study. *Journal of Communication Disorders*, 24, 1-12.
- Bryan, K., McIntosh, J. & Brown, D. (1998). Extending conversation analysis to non-verbal communication. *Aphasiology*, 12, 179-188.
- Corballis, M.C. (2003) From hand to mouth: the gestural origins of language. In: M.H. Christianse and S. Kirby (Eds.), *Language Evolution: The States of the Art* (pp.201-218). New York: Oxford University Press.
- Ferguson, A. (1994). The influence of aphasia, familiarity and activity on conversational repair. *Aphasiology*, 8, 143-157.
- Feyereisen, P. (1983). Manual activity during speaking in aphasic subjects. *International Journal of Psychology*, 18, 545-556.
- Feyereisen, P., Barter, M., Goossens, M. & Clerebaut, N. (1988). Gestures and speech in referential communication by aphasic subjects: channel use and efficiency. *Aphasiology*, 2, 21-32.
- Ford, C.E. & Thompson, S.A. (1996). Interactional units in conversation: syntactic, intonational, and pragmatic resources for the management of turns. In: E. Ochs, E.A. Schegloff & S.A. Thompson (Eds.), *Interaction and Grammar* (pp. 134-184). Cambridge, England: Cambridge University Press.
- Goodwin, C. (1995). Co-constructing meaning in conversations with an aphasic man. *Research on Language and Social Interaction*, 28, 233-260.

- Goodwin, C. (1996). Transparent vision. In: E. Ochs, E.A. Schegloff & S.A. Thompson (Eds.), *Interaction and Grammar* (pp. 370-404). Cambridge: Cambridge University Press.
- Goodwin, C. (2000). Gesture, aphasia and interaction. In D. McNeill (Ed.), *Language and gesture* (pp. 84-98). Cambridge, England: Cambridge University Press.
- Goodwin, C. (2003). Conversational frameworks for the accomplishment of meaning in aphasia. In C. Goodwin (Ed.) *Conversation and Brain Damage* (pp. 90-116). New York: Oxford University Press.
- Goodwin, C., Goodwin, M.H. & Olsher, D. (2002). Producing sense with nonsense syllables. Turn and sequence in conversations with a man with severe aphasia. In:
 C.E. Ford, B.A. Fox & S.A. Thompson (Eds.), *The Language of Turn and Sequence* (pp. 56-80). New York: Oxford University Press.
- Hadar, U. (1991). Speech-related body movement in aphasia: period analysis of upper arms and head movement. *Brain and Language*, 42, 339-366.
- Haddington, P. (2005). *The intersubjectivity of stance taking in talk-in-interaction*. *Academic dissertation*. University of Oulu.
- Hayashi, M. (2003). Language and the body as resorces for collaborative action: a study of word searches in Japanese conversation. *Research on Language and Social Interaction*, 26, 109-141.
- Helasvuo, M.-L., Laakso, M. & Sorjonen, M.-L. (2004). Searching for words: syntactic and sequential construction of word search in conversations of Finnish speakers with aphasia. *Research on Language and Social Interaction*, 37, 1-37.
- Heritage, J. (1989). Current developments in conversation analysis. In D. Roger & P. Bull (Eds.), *Conversation* (19-47). Clevedon, Philadephia: Multilingual Matters.
- Herrmann, M. & Koch U. & Johannsen-Horbach, H. & Wallesh, C-W. (1989). Communicative skills in chronic and severe nonfluent aphasia. *Brain and Language*, 37, 339-352.
- Kendon, A. (2000). Language and gesture: unity or duality. D. McNeill (Ed.), *Language and Gesture* (pp. 47-63). Cambridge: Cambridge University Press.
- Klippi, A. (1996). *Conversation as an Achievement in Aphasics*. Studia Fennica Linguistica 6. The Finnish Literature Society.
- Klippi, A. (2003). Collaborating in aphasic group conversation: striving for mutual understanding. In C. Goodwin (Ed.) *Conversation and Brain Damage* (pp. 117-143). New York: Oxford University Press.
- Klippi, A. (forthcoming). How to express disagreement in aphasia (manuscript).
- Klippi, A. & Ahopalo, L.(forthcoming). The interplay between verbal and nonverbal behaviours in aphasic word search in conversation. In A. Klippi & K. Launonen (Eds.), *Communication Disorders in Finnish and in Finland*. Cleveland: Multilingual Matters.
- Laakso, M. (1997). Self-initiated repair by fluent aphasic speakers in conversation. Studia Fennica Linguistica 8. The Finnish Literature Society.
- Laakso, M., (1999). Afaattisten puhujien sananlöytämisvaikeudet keskustelussa (Wordfinding difficulties of aphasic speakers in conversation, in Finnish). *Finnish Journal of Logopedics and Phoniatrics*, 19, 3, 109-123.
- Laakso, M., (2003). Collaborative construction of repair in aphasic conversation: an interactive view on the extended speaking turns of Wernicke's aphasics. In C. Goodwin (Ed.) *Conversation and Brain Damage* (pp. 163-188). New York: Oxford University Press.
- Laakso, M. & Klippi, A.(1999). A closer look at the 'hint and guess' sequences in aphasic conversation. *Aphasiology*, 13, 4/5, 345-363.

- Laakso, M. & Klippi, A. (2001). Sanojen löytämisen vaikeudesta. Keskustelunanalyysi afasiatutkimuksessa. (On the difficulty of finding words. Conversation analysis in aphasia research in Finnish). In M. Halonen & S. Routarinne (Eds.) *Kieli 13*. Metodologisia pohdintoja keskustelunanalyysista I (pp. 89-104). Department of Finnish Language, University of Helsinki.
- Laakso, M. & Lehtola, M. (2003). Sanojen hakeminen afaattisen hankilön ja läheisen keskustelussa. (Word searches in conversations between aphasic speakers and their significant others, in Finnish). Puhe ja kieli (Speech and Language), 23, 1-24.
- Larkins, P. & Webster, E. (1981). The use of gestures in dyads consisting of an aphasic and a nonaphasic adult. In R. Brookshire (Ed.), *Clinical Aphasiology Conference Proceedings* (pp. 120-126) Minneapolis: BRK Publishers.
- Le May, A., David, R. & Thomas, A. (1988). The use of spontaneous gesture by aphasic patients. *Aphasiology*, 2, 137-145.
- Lesser, R. (1989). Aphasia: theory based intervention. In M.M. Leahy (Ed.), *Disorders of Communication: The Science of Intervention* (pp. 189-205). London: Taylor & Francis.
- Milroy, L. & Perkins, L. (1992). Repair strategies in aphasic discourse; towards a collaborative model. *Clinical Linguistics & Phonetics* 6, 27-40.
- Oelschlaeger, M. L. & Damico, J. S. (2000). Partnership in conversation: a study of word search strategies. *Journal of Communication Disorders*, 33, 205-225.
- Rose, M. & Douglas, J (2003). Limb apraxia, pantomine, and lexical gesture in aphasic speakers: preliminary findings. *Aphasiology*, 17, 453-464.
- Rose, M., Douglas, J & Matyas, T. (2002). The comparative effectiveness of gesture and verbal treatments for a specific phonologic naming impairment. *Aphasiology*, 16, 1001-1030.
- Schegloff, E. (1996). Turn organization: one intersection of grammar and interaction. In:
 E. Ochs, E.A. Schegloff & S.A. Thompson (Eds.), *Interaction and Grammar* (pp. 134-184). Cambridge, England: Cambridge University Press.
- Schegloff, E. & Sacks, H. (1973). Opening up closings. Semiotica, 8, 289-327.
- Selting, M. (1998). TCUs and TRPs: the construction of units in conversational talk. InLiSt 4, Interaction and Linguistic Structures, Potsdam.
- Smith, L. (1987). Nonverbal competency in aphasic stroke patients' conversation. *Aphasiology*, 1, 127-139.
- Streeck, J. (1993). Gesture as communication I: its coordination with gaze and speech. *Communication Monographs*, 60: 275-299.
- Streeck, J. & Hartage, U. (1992). Previews: gesture at the transition place. In P. Auer & A. de Luzo (Eds.), *The Contextualization of Language*. Amsterdam: John Benjamins.
- Wilkinson, R. (1995). Aphasia: conversation analysis of a non-fluent aphasic person. In M. Perkins & S. Howard (Eds.), *Case studies in Clinical Linguistics* (pp. 271-292). London: Whurr Publishers.

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