Conversation Analysis

H Mazeland, University of Groningen, Groningen, The Netherlands

Introduction

What kinds of social organizations are used as resources when people communicate through talk in interaction? It is this question that conversation analysis attempts to answer. Conversation analysis (CA) studies the methods participants orient to when they organize social action through talk. It investigates rules and practices from an interactional perspective and studies them by examining recordings of real-life interactions.

Although conversation analytic research may be subsumed in typically linguistic disciplines such as pragmatics, discourse analysis, or (interactional) sociolinguistics, it started in American sociology. In particular, the sociologists Erving Goffman (*see* **Goffman, Erving (1922–1982)**) and Harold Garfinkel prepared the ground in which CA arose – Goffman with his study of cultural rules and rituals in face-to-face interaction (Drew and Wootton, 1988), and Garfinkel with his investigations into the situated and normative character of shared understanding in everyday courses of action (Heritage, 1984). Enabled by the spread of recording techniques that opened new ways of inspecting interactional data, Harvey Sacks (†1975) and Emanuel Schegloff established a novel paradigm for researching the organization of human action in and through talk in interaction (Schegloff, 1968; Schegloff and Sacks, 1973; Sacks, 1992) (*see* **Telephone Talk**; **Sacks, Harvey (1935–1975)**). Although the foundational work in CA focuses on talk in conversations, the framework has gradually been extended to research of other types of talk such as medical and clinical interaction, lessons, or news interviews. This is why the more general characterization 'talk in interaction' nowadays is often preferred over 'conversation.'

Studying Transcriptions of Recorded Talk

In conversation analysis, the investigation begins with making an audio and/or video recording of naturally occurring talk. These recordings are carefully transcribed according to specific conventions first developed by Gail Jefferson (see Jefferson, 2004). The *CA transcription notation* is designed for rendering details that contribute to the organization and intelligibility of talk. It helps to retain features of prosody and turn positioning in the transcription. Together with the original recording, the transcription enables researchers to examine the forms of language use that were available to the participants in the recorded interaction itself.

A CA transcription is still readable without considerable expert knowledge. The transcript does not represent speech production at the level of its mechanical reproducibility (the *etic* approach that is typical of phonetics). Rather, the transcription provides an empirically reliable approximation of the interpretative assemblies that participants in talk are working with (the *emic* approach). A transcription is the combined result of carefully listening to how and where utterances are produced and the interpretative work of the transcriber as a competent member of the culture under investigation.

Extract (1) exemplifies this way of transcribing talk. It documents a short episode – just 7 seconds – from a Dutch telephone conversation (the original text is followed by an English translation in italics):

Extract (1). Telephone call between brothers. Background information: Jan is calling his brother Ton from their Rhine barge. Their parents sail a barge as well. Ton is in the office of the shipping exchange. Caller Jan is inquiring whether their mother is also at the shipping exchange.

54 Jan:	mamah, (0.2) is die d'r ook?
	mama (.) is she there too?
55	0.4
56 Ton:	HÈ↑:h?
	huh?
57	(.)
58 Jan:	mama:h
	mama
59	0.6
60 Ton:	waa:r
	where
61	0.3
62 Jan:	is die daa:r?
	is she there?
63	0.3
64 Ton:	↑hie↑:r?
	here?
65	(.)
66 Jan:	j [ah
	yes
67 Ton:	[nEEj!
	nO!
68	(.)
69 Jan:	°oh:.°
70	0.6

In order to be able to read a transcription like this one, the reader has to know the conventions. Notice

first that each speaker contribution – or *turn* – has a separate line. This indicates the turn's chronological position relative to its predecessor and its successor. Other notation conventions include:

- 0.6 The length of silences between and within turns is measured in tenths of seconds.
- (.) A dot between brackets (.) indicates a short silence of less than 0.2 seconds.
- [In the case of simultaneous talk, the onset of the overlapping turn is located by a *left square bracket* in the overlapped turn.
- . , ? A *period* indicates a falling final pitch contour, a *comma* a slightly rising pitch contour, and a *question mark* a strongly rising one.
- ↓ ↑ Vertical arrows provide information about local pitch movements within syllables or at the level of a single syllable. A *downward arrow* signals a falling tone movement, an *upward arrow* a rising one.
- w*o*rd *Underlining* signals salient stress.
- wor:d A *colon* renders a noticeable sound stretch.
- sto- The *hyphen* is used as a cut-off marker.
- >faster< This utterance part is produced with higher pace than the talk surrounding it.
- <slower> The pace is relatively slower.
- LOud *Capitals* indicate relative loudness.
- °soft° The *degree sign* signals that an utterance part is produced more softly than the surrounding talk.
- ·h Hearable inbreath.
- hh Hearable aspiration.
- (guess) The transcriber is uncertain about the utterance part between parentheses.

Even the transcription of a brief episode such as the one documented in extract (1) already displays very basic features of talk in interaction. Note, for a start, how short turns may be. If the reader was expecting utterances in turns at talk to consist of complete, well-structured sentences, he will be surprised to find out how little the participants need to achieve meaningful verbal interaction. How do they do this? This question will be answered by looking at two levels of the organization of talk that are central in conversation analytic research: turn taking and sequence organization. The interaction in extract (1) shows that the participants know where and how to change the roles of speaker and listener. How they manage this is the subject of the section about the organization of turn taking. Second, the talk in this fragment is an interactionally coherent exchange of communicative actions. The episode starts with a question and it ends with the answer to that question (see lines 54 and 67, respectively). How are we able to recognize this kind of interactional order in a series of utterances? How is it achieved? This question is answered at the level of sequence organization, that is, the way in which participants coordinate actions in series of turns in order to effectuate interactional projects.

Turn Design and the Organization of Turn Taking

A remarkable feature of the interaction in extract (1) is that speaker change is coordinated smoothly. Both interruptions (or other kinds of simultaneous talk) and gaps are relatively rare. In a seminal paper first published in 1974, Sacks, Schegloff and Jefferson formulate these observations in more technical, organizational terms; the participants display an orientation to minimization of overlap, while at the same time, they also orient to minimization of gap. Sacks and his colleagues account for this fine organizational balance by a description of the systematics that conversationalists orient to when they coordinate the organization of turn taking.

The basic organizational problem that participants have to solve each turn anew is to determine when the speaker will complete the current turn. The recipient is not only figuring out what the turn is about and what the speaker is doing with it, he also has to be alert for the moment it might become his turn to speak. Recipients anticipate such organizationally relevant moments by building expectations as to what the utterance underway is going to look like. Turns are produced linearly in real time, but in the course of a turn's production, a recipient can make an informed guess about the structure of the whole unit by inspecting – in its environment of use – the part that is already there. The turn so far provides cues as to how the unit underway is constructed and when it will possibly be complete.

The building stones of turns are turn constructional units (TCUs). Each turn is built with at least one *turn constructional unit*. The design of a TCU may vary. A TCU can be built as a one-word unit, such as the turns with no more than the words *here*, *yes*, or *no* in extract (1). Other TCUs have a syntactically more elaborate design, such as the interrogative clause '*is she there too*.' Depending on the unit type the speaker is recognizably using for the construction of a TCU, the recipient will make different predictions as to when the ongoing turn may be complete.

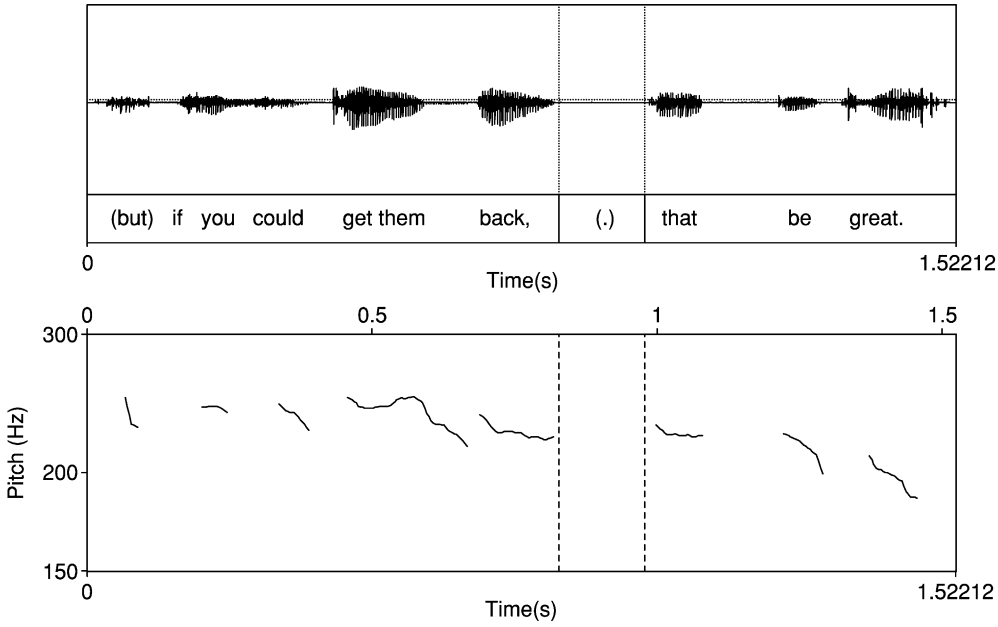

Figure 1 Prosodic analysis of the TCU in lines 321–322 of extract (2).

The more complex the unit type is, the more faceted the projection of completeness. Compare the extract below. Angela begins a TCU with a particular type of subordinate clause (*(but) if you get them back,* line 321). This makes the unit underway analyzable as the first part of a compound TCU with an [*if* . . . , *then* . . .] structure. The turn will not be complete until the speaker has finished the *then*-part that is projected by the *if*-part:

Extract (2). Telephone call between two 17-year old Californian girls. Angela has just complained that Corey's friend has not returned three of her CDs.

321.	Angela: →	·hhh (but) if you could get them
322.		back, (.) that be great.
323.		0.2
324.	Corey:	°'kay.°

Note that the recipient does not begin to speak when the speaker has finished the part with the *if*-clause. Even the short silence after it is not used as an opportunity for speakership transference. The recipient observably orients to the preceding clause as a preliminary component of a compound TCU with a two-part structure. It foreshows a continuation with a structurally specifiable type of second part as its final component. Only after the subsequent main clause implementing this latter part has reached completion, does the recipient take over (cf. Lerner, 1991, 1996).

Recipients may locate possible completeness on the basis of the interplay of syntactic and prosodic information. Whereas the TCU's construction type 'nominates' a place in an ongoing TCU as a syntactically plausible point of completeness, prosody can 'second' the nomination (Schegloff, 1998). For example, a speaker can stretch or reduce the vocalization of the intended last syllable of the turn, or mark it with a noticeable tone movement such as the falling pitch movement in the last word of Angela's turn in extract (2). Figure 1 makes the intonation contour of this TCU graphically visible with the help of *Praat,* a program for the phonetic analysis of speech.

The lower half of the graph shows the fundamental frequency – an acoustic correlate of pitch – of Angela's TCU in Hertz. Note that the last two words of the TCU move toward a final pitch level that is noticeably lower than the base level of the preliminary component.

Construction type and prosody are not the only dimensions within which participants negotiate turn rights, however. The issue of whether an utterance is possibly complete strongly depends on pragmatic factors, most notably on how the ongoing turn is related to its immediate interactional context (*see* **Context, Communicative**). Single words such as *mama, where?, here?, yes,* or *no,* for example, can only function as meaningful independent interactional moves when uttered in a context that lends them this type of intelligibility.

Each utterance provides an ensemble of various types of cues that together project a *possible completion point* of an ongoing TCU. The first possible completion point of a TCU is the place where turn

taking becomes an interactionally relevant issue. The participants of talk in interaction negotiate speaker transition around such *transition relevance places*. Conversationalists use specific techniques to allocate next turn. If current speaker selects another participant as next speaker before her turn has arrived at its first possible completion point (other selection), the selected party has both the right and the obligation to begin the next turn at this point. If no other speaker is selected, another participant may self-select as next speaker. If none of these options is used, current speaker may continue. The system then applies again as soon as current speaker arrives at the next possible completion point (Sacks *et al.*, 1974).

A TCU can function as an interactional move in its own right, and because of this, it may fill a turn slot on its own. On the other hand, turns may consist of more than one TCU (multi-unit turns). However, unless special provisions are made to maintain speaking rights over a longer stretch of talk – as is the case with, e.g., story telling (cf. Sacks, 1974) – each next possible completion point of a subsequent TCU is treated as a place where speaker transition is an organizationally relevant, negotiable issue.

Thus, the organization of turn taking is accounted for by describing it as a set of constructional practices that enable the co-participants to determine the place at which speaker transition becomes relevant and to then deal with that issue according to a structured set of interactional options. This way of modeling the organization of talk is characteristic for the CA approach. The methods that members orient to are described as formally and as generally as is necessary to account for the fact that people succeed in managing turn taking in an orderly way, innumerable times a day, in all kind of situations. At the same time, the description has to explain how participants are able to shape and recognize each time anew the particular context in which the rules for allocating next turn apply. CA thus studies the organization of talk as situated, socially organized sets of practices. It describes the methods members use for organizing talk as interactional structures that both shape the context in which they operate and enable its orderly, interactionally coordinated progression.

The general model sketched in the initial paper about turn taking has been developed further and refined in work on systematic practices of overlap positioning and overlap resolution (Jefferson, 1986; Schegloff, 2000a), collaborative turn construction through anticipatory completion of compound turns (Lerner, 1991, 1996), and the role of gaze, gesture, and body positioning (Goodwin, 1981) (*see* **Gestures: Pragmatic Aspects**).

The general characterization of the systematics of turn taking has appeared to be very robust across languages. Depending on the structural features of specific languages, however, the linguistic practices deployed to project possible completion points of TCUs may vary. The structure of English, for example, allows for early projectability of the design of TCUs. Its strict Subject-Verb-Object (SVO) word order in full clauses, for example, enforces early positioning of predicates. Function markers such as question words, imperatives, conjunctions, or quote attributions occur in sentence-initial position, just as the inversion of subject and auxiliary in yes/no interrogatives enables early recognizability. A language such as Japanese, on the other hand, is said to have an SOV- or OSV-type of word order, an agglutinative morphology, and a preference for postpositioning over prepositioning of markers of syntactic, semantic, and pragmatic functions. These properties result in a predicate-final design of clauses in TCUs. Consequently, the construction of TCUs may display a delayed projectability of possible completeness. On the other hand, Japanese has the option of explicit markers of possible completeness such as final verb suffixes or final particles (cf. Tanaka, 1999). The differences in language structure lead to partially different sets of grammatical practices that are deployed for the interactional organization of turn taking. The general principles of turn construction and completion projection are nonetheless the same.

Sequence Organization

We now turn to the question of how an exchange like the one in extract (1) is easily understood as a coherent episode. It is not just the linear temporal order of turns that accounts for our understanding. The series of turns has a structure. Some turns belong more together than others. The ways conversationalists link turns to each other as a coherent series of interrelated communicative actions is called sequence organization. A *sequence* is an ordered series of turns through which participants accomplish and coordinate an interactional activity.

A question followed by an answer is an example of a sequence. Other examples are a request and the decision that is made about it, an informative and its receipt, and a criticism and the reply to it. All these different types of two-part sequences are instances of a very tight type of sequence organization: the *adjacency pair* (cf. Schegloff, 1968; Schegloff and Sacks, 1973). When a recipient of a turn at talk hears the speaker's utterance as the first part of a particular type of adjacency pair, the appropriate thing to do next is to deliver an utterance that may count as

the second part of the same pair. For example, the appropriate reaction to a question is to answer it. The question is treated as the first pair part of a question/answer pair; the answer is its second part. Requests, invitations, offers, proposals, informatives, complaints, or accusations establish similar expectations with respect to a continuation with a fitting type of second pair part in the next turn (*see* **Speech Acts**).

Extract (3) documents several instances of question/answer pairs. The first one starts in line 33. The son asks his mother a question, and at the first possible completion point of his turn, the mother takes over to answer it.

Extract (3). Telephone call between a mother and her son. Background information: The mother has called her son from the family's Rhine barge. The son is in a boarding school for bargee children.

33 son:	nou↓: >waar zitteh jullie< nouw.
	well where are you $_{plural}$ *now.*
	0.2
34 mother:	i:: >Amsterdam.<
	i::(n) Amsterdam.
35	0.3
36 son:	waar moe(we) almal heen.
	where all do (we) have to go to.
	0.3
37 mother:	è↑:h?
	huh?
	(.)
38 son:	waar moewe heen
	where do we have to go to
39 mother:	naar Luik.
	to Liège.
	0.2
40 son:	naar Lui:k?
	to Liège?
41 mother:	jah.
	yes.

When the mother treats the utterance in line 33 as the first part of a particular type of adjacency pair, she is dealing with it as a specific type of social organization. She does not just hear an interrogative sentence that, under felicitous conditions, may count as a separate speech act; she hears it as an utterance that proposes her engagement in an interactional course of action. When an utterance is analyzable as the first pair part of a particular type of adjacency pair, it locally establishes a normative expectation toward what its recipient should do in next turn. The first part makes the delivery of a fitting second part *conditionally relevant*. That is, its recipient is expected to deliver the second part in his next turn. If it is absent, this is noticeable and accountable (cf. Schegloff, 1968; Heritage, 1984). The obligation to deliver the second pair part as soon as possible in next turn may be suspended, however. Compare, for instance, the mother's response to her son's next question in extract (3) ('*where all do (we) have to go to*'). '*Huh?*' is not an answer. Instead of answering the question, the mother initiates *repair* (cf. Schegloff *et al.*, 1977; Schegloff, 1992, 2000b). She signals that she is having a problem with prior turn. The son's subsequent, slightly modified repetition of his question apparently solves the problem, because the mother is able to answer now ('*to Liège*'). Unlike the first question/answer sequence in this episode, the answer is not delivered in next turn. A short repair sequence is inserted between question and answer. Schematically, this can be rendered as shown in Figure 2.

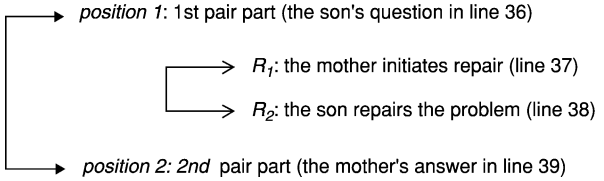

Figure 2 Sequential structure of the interaction in lines 36–39 of extract (3).

An *insertion sequence* like the repair sequence in lines 37–38 locally suspends the interactional expectation to deliver the second pair part in the turn following the one with the first part. The intervening interaction shows that the participants nevertheless are still oriented to the relevance of the second pair part. The repair sequence is recognizably supportive of the felicitous development of the base sequence in which it is embedded. The delivery of the answer is still pending. The urgency to answer is only temporarily postponed. Note that the questioner even renews the actuality of getting an answer by redoing his question in the repair itself, thereby creating another opportunity to hold onto the preference for next-positioning of first and second pair parts. And, by the way, note also that the inserted repair sequence is again structured by principles of adjacency pair organization!

Conditional relevance is also the key for understanding the structure of extract (1). We are able to understand the interaction in extract (1) as an orderly, methodically achieved sequential course of action on the basis of the adjacency pair structure. For the reader's convenience, the fragment is repeated below:

Extract (1). Telephone call between brothers.

54 Jan:	mamah, (0.2) is die d'r ook?
	mama (.) is she there too?
55	0.4
56 Ton:	HÈ↑:h?
	huh?
57	(.)
58 Jan:	mama:h
	mama
59	0.6
60 Ton:	waa:r
	where
61	0.3
62 Jan:	is die daa:r?
	is she there?
63	0.3
64 Ton:	↑hie↑:r?
	here?
65	(.)
66 Jan:	j [ah
	yes
67 Ton:	[nEEj!
	nO!
68	(.)
69 Jan:	°oh:.°
70	0.6

The question in line 54 urges its recipient to deliver an answer as soon as possible. Its delivery is, nonetheless, suspended three times by the initiation of repair from the part of the intended answerer (lines 56, 60, and 64). Each next repair initiation builds upon the result of the former one, until the recipient of the question finally is able to answer it in line 67. The sequential organization of this episode can be schematized as shown in Figure 3.

The interaction in extract (1) is tied together by the way the utterance in the first turn is sequentially related to the one seven turns later. The question in line 54 makes an answer conditionally relevant, and as long as this answer is not given, the participants work collaboratively toward an occasion in which it can be delivered. All intervening actions are recognizably designed as subsidiary to the task still pending. They should enable the recipient of the question to answer it, and as such, they account for the answer's postponement in each subsequent turn.

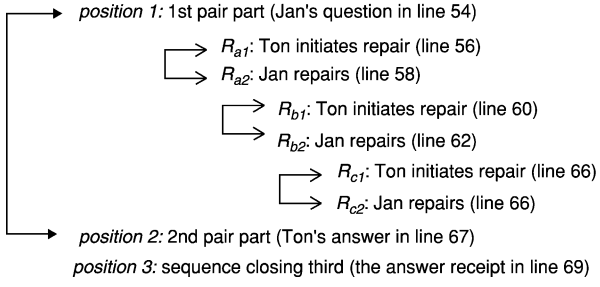

Figure 3 Sequential structure of the interaction in lines 54–69 of extract (1).

The interactions in extracts (1) and (3) clearly illustrate that the practices through which conversationalists make sense of turns at talk are based upon *sequential reasoning*. A turn such as '*in Amsterdam*' in extract (3) can only be interpreted within the context of the question it is answering. The expression is not just a place formulation. As a place formulation, it is answering the question where the family's Rhine barge is at the time of asking. The structure of the TCU as a lone standing prepositional phrase even signals the kind of action it is designed to accomplish in its environment of use. The combination of the turn's position and the composition of the TCU together signal answerhood. It informs the recipient about how the turn should be related to its local sequential context. The identification of this relation is part and parcel of determining what a speaker is saying and doing. Interpretative reasoning goes by lines of sequential organization.

Utterances in turns at talk accomplish actions that are part of social activities which are sequentially organized and have sequential implications for the participants. In this section we have only looked at one type of sequence organization – the adjacency pair structure – and the way it can be expanded by sequence insertion. Central to this perspective is the insight that utterances do not just simply count as isolated 'actions.' Participants in talk in interaction orient to them as moves in contextually situated social arrangements. Participants in talk in interaction do not attribute meaning to utterances by simply applying rules that are independent from and external to the interaction. They make sense of utterances in turns at talk by situated, sequential reasoning.

Conversation Analytic Methodology

Conversation analytic methodology is based upon the already discussed assumption that the sense-making devices that participants in talk in interaction orient to can be understood as forms of situated, interactional reasoning (cf. Heritage, 1984; ten Have, 1999). This kind of contextual reasoning can only be investigated from *within* the interaction. The central requirement of CA methodology – convergence between the analyst's perspective and the perspective of the participants – attempts to achieve this. The analyst has to make plausible that his or her results are indeed a description of the methods that the participants themselves orient to.

The Data

In order to avoid problems with respect to the ecological validity of data, naturally occurring interactions

are strongly preferred. They are recorded and transcribed according to the conventions discussed earlier. The transcriptions are used to generate initial ideas about how people communicate in talk in interaction. These ideas are worked out by looking at other instances of the same phenomenon. As a result, the description is gradually broadened and cyclically refined by falsifying or validating evidence. Additionally, transcripts allow the researcher to make her data available to the scientific community. The data are retrievable for the audience. Other students are enabled to redo and to check the analysis.

Analyzing Data

Conversation analytic methodology is strongly data driven. There are two kinds of studies. In a *single case analysis*, the researcher develops an analysis of the interaction in a single episode with respect to some interesting or relevant aspect. In a *collection study*, the analyst generalizes the results of a cumulative series of single case analyses with respect to a specific aspect. All cases are compared with respect to some feature by describing how, and the degrees to which they are the same, similar, or different.

Single case analyses serve purposes such as generating ideas that have to be grounded in a collection study, testing and applying the results of collection studies, or exploring the interplay of constellations of practices in episodes of talk in interaction. Collection studies have two phases (cf. Heritage, 1995). In the first phase, the analyst describes regularities with respect to some particular aspect of the data and develops a description of a candidate pattern by going from case to case in a corpus of transcripts. The description of phenomena is both formal and situated. A description is formal when it is formulated at a level of generality that allows for a characterization of the recognizability of a device across contexts. A description is situated when the context is specified. We can discern distinct levels of description: the level of turn design – practices of turn construction or 'packaging' – and the description of the kind of social action that is implemented by practices of turn construction at a sequential level.

In a second phase, the analyst attempts to meet the requirement of convergence between the participants' and the analyst's perspective, and has to prove that the participants observably orient to the candidate pattern. A keystone procedure to do this is deviant case analysis (cf. Schegloff, 1968); the analyst examines cases where some departure from the described pattern can be observed. Examination of deviant cases either results in a modification of the theory developed so far, or it can be shown that a boundary case eventually provides some kind of second-order validation of the basic pattern. The latter is frequently the case with conversational repair. Conversationalists frequently restore departures from the methods they use. Such cases convey how and to what extent the participants are oriented to the principle that the analyst tries to establish as a pattern. Remember, for instance, how departures from the principle of conditional relevance in extracts (1) and (3) eventually confirmed a participant orientation to that very same device. The participants maintain the rule of having to provide a fitting second pair part by solving the troubles they encounter in trying to obey to the rule. Usually, phases 1 and 2 are repeated recursively. The ideal is to achieve an exhaustive description that accounts for all instances of the phenomenon in question in the corpus.

Quantification may play a role in determining the distribution of the observed pattern. Quantitative processing of the data, however, is subsidiary to qualitative exploration of the phenomenon in phase 1 and to qualitative validation of the candidate description in phase 2. Distributions that confirm a hypothesis primarily establish regularities. The researcher still has to provide qualitative evidence that the participants observably orient to such a pattern as a normative interactional rule. If the analyst is able to demonstrate that conversationalists orient themselves by the principle in question and to give a plausible account of how they do this, this accounts for the regularities.

The next section gives a short demonstration of a conversation analytic way of working. A single case will be discussed in order to explain how it confirms a general pattern. The case analysis describes an aspect of sequence organization that is called preference organization. In this case, the preference of agreeing over disagreeing assessments will be looked at. The analysis shows that the orderly packaging of systematic sequential alternatives allows for inferences that are part of the interpretative procedures participants use to make sense of talk.

Preference Organization

The excerpt below is taken from a telephone conversation between spouses. The wife has called her husband late at night in his restaurant bar. The episode starts with the husband introducing a new topic. He tells how business is doing tonight. This report is concluded with a summary assessment: '*so u:h it's much better tonight than expected*' (lines 41–42). When his wife parsimoniously confirms this evaluation by only saying *yes,* the husband is not content with this response. It is challenged almost immediately ('*so what?*,' line 46):

Extract (4). Telephone conversation between spouses. Background information: In the preceding episode, Ans has blamed her husband for failing to answering the phone earlier that evening.

27		[3.2
28		[*((cutlery sounds in background))*
29	Bert:	nou e:::::h 't is (nog eh) lekker druk.
		well u:::::h it's (still uh) pretty busy.
30		0.6
31	Ans:	m:.
32		0.5
33		'k hoor 't jah
		So I hear uh huh
34		0.5
35	Bert:	°↑jah:°
		yes
36		1.2
37		°één twee drieh° (0.6) nou drie
		one two three (0.6) well three
38		(garnetborde) en twee drie vier zit-(.)
		(plate services) and two three four sit-
39		vijf zes: zitt'n 'r nog.
		five six still sitting there.
40		2.5
41		dus e:h dat valt
		so u:h it's
42		vana:vond reuze mee
		tonight much better than expected
43		(.)
44	Ans: →	·thHH j:Ah. hhh
		yes.
45		0.2
46	Bert: →	wat dan:?
		so what?
47		0.7
48	Ans:	*nou ja:h e:hh*
		well yes u:hh

In the aftermath of this exchange, a short dispute develops between the spouses. The wife's initial reaction is rather resistant. Yet when her husband keeps pushing her, she finally bursts out in an angry, reproaching tirade (lines 59–70):

Extract (5). 22 seconds later in the same episode (including a long, awkward silence).

58	Ans:	je:zus
		jesus
59		ik moet elk woor:d >wat ik zeg<
		I have to every word that I say
60		moet ik verantwoordeh
		I have to account for
61		moet ik vier keer uitLEGgehH
		I have to explain four times
62		(.)
63	Bert:	nee dat hoeft niet.
		no you don't have to.
64		1.3
65	Bert:	dat hoe[:-
		you don't-
66	Ans: →	[ALS IK zeg JA: van nou
		if I say yes like well
67		>met ander woordeh< da's dan
		in other words that's
68		PRIma eh dan=ehm: ·hHh
		fine then uh then uhm ·hhh
69		0.4
70	Bert:	↑neeh dat hoe:ft ↓nie:t,h
		no you don't have to,

The wife does the kind of metatalk we all know from our own quarrels. Acting as a competent lay linguist, she formulates explicitly what she meant with her response: '*if I say yes, (. . .) in other words, that's fine (. . .)*.' In her version, the husband has misunderstood her completely. When reacting with *yes,* she was giving an agreeing, even approving response. The question is, however, whether the husband indeed did misunderstand her. Did he have any conversational evidence for an alternative interpretation when he threw doubt upon his wife's response?

In order to be able to answer this question, we have to go back to the sequence that occasioned the dispute. The utterance '*so u:h it's much better tonight than expected*' (lines 41–42) is an assessment. It is an interactional property of *first assessments* that when its recipient is also knowledgeable about the evaluated object, a second assessment is expected from the part of that party. *Second assessments* have the property that they find their measure in the assessment they are responding to. Second assessments are never neutral; they either agree or disagree with the first one. Disagreeing assessments are more delicate actions than agreeing assessments. Participants in talk in interaction treat a disagreeing second assessment usually as a less preferred type of next action than its agreeing alternative. They are nonequivalent alternatives. Agreement is preferred and unmarked; disagreement is dispreferred and marked. Preferred second pair parts are delivered without delay and formulated in a frank, concise mode. Dispreferred seconds, on the other hand, are frequently delayed, mitigated, hesitantly produced, hidden away, put in a roundabout way or accounted for (Pomerantz, 1984; Schegloff, 1995).

The ranking of sequential alternatives with respect to their relative degree of preference is called *preference organization*. The preference for agreement is just one type of preference organization. A related type of preference organization is the preference for project success. It accounts for the preference for second pair parts of adjacency pairs that bring about the result targeted in the interactional project that is initiated with a first pair part, e.g., getting an answer

to a question, accepting an invitation, granting a request, affiliating with a complaint, etc. Participants' orientations to preference organization is a major source for *sequence expansion* of adjacency pairs (Schegloff, 1995). Participants may probe and try to preempt the likeliness of a dispreferred second pair part in a *presequence* (Schegloff, 1980). They may initiate repair on first pair parts in *insertion sequences* in order to provide an opportunity to adjust the preference structure of the preceding first pair part, or to at least delay the delivery of a dispreferred second pair part. And they may try to revise or to accommodate a preceding dispreferred second pair part in various types of *post-expansion* (Schegloff, 1995) – as in the kind of post-expansion that can be observed in extracts (4–5). The relational implications of types of interactional alignment and disalignment that are governed by preference organization are also investigated from the perspective how participants negotiate *epistemic rights* (Heritage and Raymond, 2005; Stivers, 2005). For example, a co-participant may claim or give evidence for primary epistemic authority by the way he responds to a first assessment, although the response itself has a kind of secondness because it is done in a sequentially second position.

The notion of preference does not refer to psychological dispositions. It is a description of interactionally observable orientations of participants. Preference organization provides the participants with a subtle and powerful apparatus for making interpretative inferences. In extract (4), the husband uses it as a resource when he challenges his wife's response. In a context in which an agreeing second assessment is preferred, his wife avoids taking a stance. When she reacts with '*yes,*' she merely acknowledges her husband's statement '*so u:h it's much better tonight than expected*.' She does not affiliate with her husband, but responds in an evasive manner instead. Her husband's reaction attends to precisely this aspect of her response. He challenges a weakly agreeing response in a sequential environment in which another alternative is more preferred. So, despite his wife's subsequent (re-)formulation of the meaning of *yes* as simply agreeing, the man nevertheless has good reasons to hear her response as a sign of reservation or even foreboding disagreement. From a sequential perspective, the response is not just acknowledging prior speaker's assessment. Saying *yes* in this context is rather deployed as a device to avoid agreeing. As a contextually specifiable selection of another alternative than the preferred one, it legitimizes the interpretation that is subsequently challenged by the husband.

The analysis of the origins of the argument in extract (4) demonstrates several aspects of the conversation analytic approach. First, it introduces another aspect of sequence organization: preference organization. Second, it shows one more time how the meaning of utterances is constituted along lines of sequential reasoning. An utterance in a turn at talk is not just what it says, but what it does in a particular sequential context. Third, the analysis illustrates that the methods by which participants make sense of their talk may be (re-)specified and (re-)negotiated in the course of the interaction. Finally, the discussion demonstrates some aspects of CA methodology discussed in the former section. The knowledge that first assessments invite a second assessment from its recipient stems from a collection study (Pomerantz, 1984). The interaction in extract (4) seems to contradict this pattern. Instead of continuing with a second assessment, the recipient responds with only an acknowledgement token. However, when this observation is combined with insight into the ways how preference organization operates, the interaction can be explained in terms of the very same mechanism. The analysis of a deviant case eventually provides a kind of second-order validation of the theory developed so far.

Extensions and Applications

The basic theoretical, analytical, and methodological framework of CA has been developed further into various domains and directions. Studies in the area of interaction and grammar explore the relationship between language structure, linguistic practices, and the organization of turn taking and of sequences in talk in interaction (Ochs *et al*., 1996; Selting and Couper-Kuhlen, 2001; Ford *et al*., 2002; Couper-Kuhlen and Ford, 2004).

The work of Charles Goodwin has given a major impetus to the study of the multimodal and embodied character of the organization of human action in talk in interaction – not only the role of gaze, gesture, and body positioning, but also the use of tools and other features of the setting (Goodwin, 2000; see also the workplace studies in Heath and Luff, 2000). Goodwin (2003) provides a collection of CA studies of the ways in which people with one or another form of language impairment use various types of sequential and situational reasoning in ordinary communicative situations (*see* **Institutional Talk**; **Family Speak**; **Computers in Lexicography**).

Talk in institutional, professional, or work settings is also studied by describing how it is constrained or modified in comparison to conversational interaction (Drew and Heritage, 1992). The research in this area has frequently the shape of studying genres or activity types in a specific domain, e.g., the news interview (Clayman and Heritage, 2002), judicial interaction (Atkinson and Drew, 1979), emergency calls (Whalen

and Zimmermann, 1990), meetings (Boden, 1994), telling good and bad news in clinical settings (Maynard, 2003), and gossip (Bergmann, 1993). The research here is sometimes called applied CA (see ten Have, 1999) (*see* **Institutional Talk**).

Wootton (1997) is an example of a CA study in the area of early language acquisition. The study of foreign language use in talk in interaction focuses on the organization of repair (see Schegloff, 2000b; Gardner and Wagner, 2004).

A primarily British group of social psychologists approaches typically psychological topics such as attitude, identity, and cognition from an interactional perspective, using CA as a central theoretical and methodological framework (Te Molder and Potter, 2004).

Journals that regularly publish CA papers are *Research on Language and Social Interaction, Discourse Studies, Human Studies, Journal of Pragmatics, Language in Society, Pragmatics,* and *Text*. Important centers of CA research are UCLA (Schegloff, Heritage, Clayman), UCSB (Lerner, Raymond), the University of Wisconsin (Maynard, Ford), The University of York (Drew, Local, Wootton), the University of Helsinki (Sorjonen), Odense (the Graduate School of Language and Communication), Bielefeld (Bergmann), and Max Planck Institut Nijmegen, Language and Cognition Group (Stivers).

Discussion lists with CA-oriented discussion are the Language-use list, the Ethno-Hotline, the German *Gesprächsanalyse*-list, or the Danish MOVIN-list. The Ethno/CA News website of Paul ten Have announces conferences, publications, and other news.

See also: Computers in Lexicography; Context, Communicative; Family Speak; Gestures: Pragmatic Aspects; Goffman, Erving (1922–1982); Institutional Talk; Sacks, Harvey (1935–1975); Speech Acts; Telephone Talk.

Bibliography

Atkinson J M & Drew P (1979). *Order in court*. London: Macmillan Press.

Atkinson J M & Heritage J (eds.) (1984). *Structures of social action. Studies in conversation analysis*. Cambridge: Cambridge University Press.

Bergmann J (1993). *Discrete indiscretions. The social organization of gossip*. New York: Aldine/de Gruyter.

Boden D (1994). *The business of talk: organizations in action*. Cambridge: Polity Press.

Clayman S & Heritage J (2002). *The news interview. Journalists and public figures on the air*. Cambridge: Cambridge University Press.

Couper-Kuhlen E & Ford C E (eds.) (2004). *Sound patterns in interaction. Cross-linguistic studies from conversation*. Amsterdam/Philadelphia: Benjamins.

Drew P & Wootton A (eds.) (1988). *Erving Goffman. Exploring the interaction order*. Cambridge: Polity Press.

Drew P & Heritage J (eds.) (1992). *Talk at work. Interaction in institutional settings*. Cambridge: Cambridge University Press.

Ford C E, Fox B & Thompson S A (eds.) (2002). *The language of turn and sequence*. Oxford/New York: Oxford University Press.

Gardner R & Wagner J (eds.) (2004). *Second language conversations: Studies of communication in everyday settings*. New York/London: Continuum.

Goodwin C (1981). *Conversational organization*. New York: Academic Press.

Goodwin C (2000). 'Action and embodiment within situated human interaction.' *Journal of Pragmatics 32*, 1489–1522.

Goodwin C (ed.) (2003). *Conversation and brain damage*. New York: Oxford University Press.

Have P ten (1999). *Doing conversation analysis*. London: Sage.

Heath C & Luff P (2000). *Technology in action*. Cambridge: Cambridge University Press.

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

Heritage J (1995). 'Conversation analysis: methodological aspects.' In Quasthof U (ed.) *Aspects of oral communication*. Berlin/New York: Walter de Gruyter. 391–418.

Heritage J & Raymond G (2005). 'The terms of agreement: Indexing epistemic authority and subordination in talk-in-interaction.' *Social Psychology Quarterly 68(1)*, 15–38.

Jefferson G (1986). 'Notes on 'latency' in overlap onset.' *Human Studies 9(2–3)*, 153–184.

Jefferson G (2004). 'Glossary of transcript symbols with an introduction.' In Lerner G (ed.) *Conversation analysis. Studies from the first generation*. Amsterdam/Philadelphia: Benjamins. 13–31.

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

Lerner G (1996). 'On the 'semi-permeable' character of grammatical units in conversation: conditional entry into the turn space of another speaker.' In Ochs *et al.* (eds.). 238–276.

Maynard D (2003). *Bad news, goods news. Conversational order in everyday talk and clinical settings*. Chicago/London: University of Chicago Press.

Ochs E, Schegloff E & Thompson S (eds.) (1996). *Grammar in interaction*. Cambridge: Cambridge University Press.

Pomerantz A (1984). 'Agreeing and disagreeing with assessments: some features of preferred/dispreferred turn-shapes.' In Atkinson J M & Heritage J (eds.) 57–101.

Sacks H (1974). 'An analysis of the course of a joke's telling in conversation.' In Bauman R & Sherzer J (eds.) *Exploration in the ethnography of speaking*. Cambridge: Cambridge University Press. 337–353.

Sacks H (1992). *Lectures on conversation*. Jefferson G (ed.), Introduction by Schegloff E. Oxford/Cambridge, MA: Blackwell.

Sacks H, Schegloff E & Jefferson G (1974). 'A simplest systematics for the organization of turn-taking for conversation.' *Language 50,* 696–735.
Schegloff E (1968). 'Sequencing in conversational openings.' *American Anthropologist 70,* 1075–1095.
Schegloff E (1980). 'Preliminaries to preliminaries: "Can I ask you a question?"' *Sociological Inquiry 50(2),* 104–152.
Schegloff E (1992). 'Repair after next turn: The last structurally provided defense of intersubjectivity in conversation.' *American Journal of Sociology 98,* 1295–1345.
Schegloff E (1995). *Sequence organization.* Cambridge: Cambridge University Press. (ms., Department of Sociology, UCLA. An updated version appears in 2006 as: *A primer in conversation analysis. Sequence organization.* Cambridge: Cambridge University Press.)
Schegloff E (1998). 'Reflections on studying prosody in talk-in-interaction.' *Language and Speech 41(3–4),* 235–263.
Schegloff E (2000a). 'Overlapping talk and the organization of turn-taking for conversation.' *Language in Society 29,* 1–63.
Schegloff E (2000b). 'When 'others' initiate repair.' *Applied Linguistics 21(2),* 205–243.
Schegloff E, Jefferson G & Sacks H (1977). 'The preference for self-correction in the organization of repair in conversation.' *Language 53,* 361–383.
Schegloff E & Sacks H (1973). 'Opening up closings.' *Semiotica 8(4),* 289–327.
Selting M & Couper-Kuhlen E (eds.) (2001). *Studies in interactional linguistics.* Amsterdam/Philadelphia: Benjamins.
Stivers T (2005). 'Modified repeats: One method for asserting primary rights from second position.' *Research on Language and Social Interaction 38(2),* 131–158.
Tanaka H (1999). *Turn-taking in Japanese conversation. A study in grammar and interaction.* Amsterdam/Philadelphia: Benjamins.
Te Molder H & Potter J (eds.) (2005). *Talk and cognition: discourse, mind and social and interaction.* Cambridge: Cambridge University Press.
Whalen M & Zimmerman D (1990). 'Describing trouble: practical epistemology in citizen calls to the police.' *Language in Society 19(4),* 465–492.
Wootton A J (1997). *Interaction and the development of mind.* Cambridge: Cambridge University Press.

Relevant Websites

http://ecampus.bentley.edu/dept/bps/emca – Ethnomethodology and Conversation Analysis section of the American Sociological Association.
http://www.institut-gespraechsforschung.de – German Gesprächsanalyse-list.
http://www.conversation-analysis.net – Danish MOVIN-list.
http://www.paultenhave.nl – Ethno/CA News website of Paul ten Have.

Conversational Agents, Synthetic

J Cassell, Northwestern University, Evanston, IL, USA

Embodied conversational agents (ECAs) are virtual humans (often life-size) who are capable of carrying on conversations with real humans. These virtual humans may serve many functions, both practical and theoretical. In the practical vein, they may act as the interface to a computer so that instead of choosing commands on a menu, one can carry on a conversation.

Figure 1 shows an ECA named REA who acts as the interface to a database of houses in the Boston area. Rather than having to type in search terms, users can tell REA what kind of property they are looking for, and REA will nod, reflect, and then find appropriate properties and describe them using a combination of descriptive hand gestures, head movements and spoken language.

ECAs can also serve as autonomously acting characters in video games. **Figure 2** shows an ECA that plays the role of a village leader that reacts to the soldier character played by the user. In this instance, the system is designed to teach Arabic in such a way that soldiers going into an unfamiliar culture learn appropriate body language as well as the necessary foreign words and phrases.

ECAs also allow linguists to model human linguistic behavior and to evaluate competing theories of language use by observing them in action. **Figure 3** shows an ECA that gives directions by speaking, gesturing, and tracing a route on a map. This system has allowed researchers to discover the role of nonverbal behaviors, such as eye gaze and head nods, in grounding, or the establishment of information as shared between two participants.

In all of these cases, the embodied conversational agents are modeled on human face-to-face conversation and therefore get their meaning across by employing not just text (as do regular computers with a mouse, keyboard, and screen) but also spoken speech with intonation, hand gesture, head movements, and facial expressions. Embodied conversational agents are defined by the following:

- The ability to recognize and respond to verbal and nonverbal input