ABSTRACT
        This paper attempts to show that certain structural
relations that contribute to creating text in spoken and written
monologue also bind segments together in conversation. Methodology is
based on a model of text as consisting of sequences of a
problem-solution structure. Analysis of texts from 12
purpose-oriented telephone conversations focuses on how
macrostructural patterns are jointly created and made clear by the
speakers in the course of the interaction. It is shown that speakers
use two types of markers to clarify the macrostructure of the
conversations: markers signaling the type of component in the
problem-solution structure for a given unit, and markers that signal
boundaries between units. Most markers of the latter type also focus
attention on upcoming talk. Speakers used markers indicating the type
of component in more than 50% of the structural units in the
conversations, whereas 34% of the boundaries between units are
specially marked. (Author/JP)

Macrostructure in conversation

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Abstract

This paper aims at showing that certain structural relations that contribute to creating text in spoken and written monologue also bind segments together in conversation. The common global pattern is the problem-solution structure. The investigation focuses on how this macrostructural pattern is jointly created and made clear by the speakers in the course of the interaction. It is shown that speakers use two types of markers to clarify the macrostructure of the sample conversations: markers signalling the type of component in the problem-solution structure for a given unit, and markers that signal boundaries between units. Most markers of the latter type have a double function in that they also focus attention on upcoming talk. Speakers use markers indicating the type of component in more than 50% of the structural units in the sample conversations, whereas 34% of the boundaries between units are specially marked. The investigation also shows that speakers cooperate to a considerable extent in shaping the propositional content of structural units and in signalling boundaries between units.

1. Introduction

The analysis of conversation may be approached from different angles. This paper reflects a text-linguistic approach where the focus of interest will be on the overall structural organisation in conversation and on how this structure is jointly created and made clear by the speakers as the conversation unfolds. It has sometimes been claimed that many types of text are built on a common rhetorical pattern, the so-called response pattern, or problem-solution pattern (Grimes, 1975: 211, van Dijk, 1980: 110-1; see also e g Hoey, 1983, Jordan, 1984). In two earlier studies I have traced this macrostructural pattern in spoken and written expository text (Bäcklund, 1988, 1989). The present paper will report on a corresponding investigation of natural conversation. The point of departure will be the hypothesis that the same organising structural relations that contribute to creating text in spoken and written monologue also bind segments together in conversation. To test this hypothesis, the same method of analysis that was used for monological text (Bäcklund 1988, 1989) was applied to conversation. The results of the analysis will be accounted for in this paper and, as mentioned above, I will focus on how macrostructural patterns are constructed and made clear by the speakers in the course of the interaction.[1]

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2. Material

My investigation is based on telephone conversations. There are two reasons for this. Firstly, the method of analysis used here aims at clarifying the organisation of complete texts, and to take telephone conversations as the object of study is a practical way of meeting the requirement of complete conversations. Secondly, in telephone conversation speakers obviously must rely more on linguistic means to convey their message than in face-to-face situations. Therefore it seems likely that the text structure of a telephone conversation is more clearly signalled and hence more easily observable than the structure of a face-to-face conversation.

My sample texts are 12 telephone conversations from the London-Lund Corpus of Spoken English.[2] The whole sample comprises some 10,000 words and the conversations range from about 250 words to about 3,300 words. They are all surreptitiously recorded complete calls.[3] All calls except one are purpose-oriented in that the reason for the call is to request or give specific information. The motive for the remaining, fairly short call (7.2 min) seems rather to be a need for phatic communion.

3. Method

The present method of analysis was originally developed by Tirkkonen-Condit (1985) for argumentative text. It is based on Grimes (1975) and Hoey (1983) among others. According to this model a text is seen as a sequence of so-called minitexts, each consisting of a problem-solution structure, i e a set of components forming a structural unit. These interrelated functional components are SITUATION, PROBLEM, SOLUTION, and EVALUATION. These components are paratactically related, thus on the same hierarchical level in the given text segment. The system also includes hypotaxis: a CONCLUSION, for instance, is superordinate to the material from which it is drawn, and an ELABORATION is subordinate, that is on a lower level than the material it elaborates on. There are several types of elaboration. such as Justification, Explanation, and Reformulation. In the present analysis they have all, for the sake of simplicity, been lumped together as Elaboration.[4]

The different components are identified with the help of set questions of the type 'What is the solution to this problem?', 'What conclusion do you draw from this?', or 'How can you elaborate on (exemplify, clarify, etc) this?' If a certain question fits into the text at a given place, this is taken to mark the beginning of a new component of the type identified by the question. This classification into components may be tested

by inserting signals associated with the different components. For instance, *thus* is a signal of conclusion, *I am afraid* of problem, *had better* of solution etc. So if *thus* fits into a text segment that has been analysed as conclusion, this is regarded as supporting the analysis. Elaborations may be tested by deletion. If a sequence can be left out without impairing the main line of the text, this is an indication of its subordinate status.

As already stated, a text is seen as a sequence of minitexts made up of the components discussed above. All of the components need not necessarily occur within each minitext or section, but in most cases two or more are present. It should also be pointed out that problem-solution structures occur at different levels. An elaboration, for instance, which is subordinate to the material it elaborates on (cf above), may itself consist of a problem-solution structure. These embedded problems and solutions are then at a lower level in the text than the unit they elaborate on. In the present investigation, however, elaborations are not subdivided into their constituent components; it is structures at higher levels that are of interest.

The method of analysis outlined above was applied to the sample texts, and their structural components were identified. In the following I will first discuss structural patterns in the conversations, then give an account of how these patterns are signalled. It appears that there are two categories of structural signals in conversation: signals indicating the type of component in the problem-solution structure, and signals marking boundaries between components. These two types will be accounted for separately.

4. Problem-solution structure in conversation

A telephone conversation always starts with a fairly stereotypical opening section, where introductions and greetings are exchanged. There is also a closing section, where participants agree to finish the conversation and exchange farewells (cf. Schegloff and Sacks, 1973). Openings and closings have been omitted from the present analysis, since it is what occurs between these sections that is of interest here.

The 12 sample texts contain one or several problem-solution structures each. In all, 263 components have been identified. These components fall into two categories depending on whether one or both participants contribute to the propositional content of the unit in question. A participant is regarded as taking part in the creation of a unit if his or her contribution involves more than mere support signals. In (1) we have an instance where both speakers contribute to the content of the unit, in this case an elaboration.[5]

(1)
```
C: I mean you know# don't get yourself worked up into
a state# and run into lamp-posts and things#
R: no# I'll take the old car# and then you've got the other one# if [@m]
C: oh you take the good one and leave me the old one#
fathead# you might have to take her somewhere#
R: oh yes# all right#
```
7.2c 436-448

Table 1 shows the distribution of structural components in the sample texts and the degree of speaker cooperation involved in the creation of these components. Components have been classified according to whether the caller, the recipient of the call, or both participants shape the content of the component.

Table 1. *Distribution of structural components and speaker cooperation.*

	Sit	Prob	Sol	Eval	Concl	Elab	Total
Caller	14	37	18	9	9	13	100 (38%)
Recipient	5	22	41	7	8	22	105 (40%)
Both	5	3	7	5	7	31	58 (22%)
Total	24	62	66	21	24	66	263

It appears from Table 1 that in 22% of the components both speakers contribute to the propositional content of the unit. It is above all in elaborations that this cooperation occurs: 31 of the 58 units with both speakers involved are elaborations. Thus, in 31 of the 66 elaborations both participants contribute to clarifying the matter that is currently being talked about. It may be worth mentioning that cooperation seems to be more common in conversations between friends than between strangers: 64% (37/58) of the units in which both speakers contribute occur in conversations between friends, although these texts include only about 40% of the corpus (cf note 3).

Table 1 also shows that problems, solutions and elaborations are the most frequent components, together comprising 75% of the structural units. Problems and solutions may be regarded as core components with elaborations as common supporting elements. The fact that 80% (53/66) of the elaborations refer to problems and solutions also points to the predominance of these two types of structural component. They are also units in which the type of component is frequently marked, as will be shown in the next section.

Finally, we may note that in about 60% of the situation and problem components it is the caller who is alone responsible for the propositional content of the unit, whereas in 62% of the solutions (41/66) it is the recipient, who shapes the content of the component. This is perhaps to be expected since, as mentioned above, all calls except one are purpose-oriented: the caller presents a problem, the recipient proposes a solution.

5. Component signals

It has already been mentioned that there are certain signals associated with the different components of the problem-solution structure. These signals seem to be of three types: connectives, certain syntactic structures, and expressions denoting, for instance, dissatisfaction (problem), improvement (solution), and evaluative expressions (evaluation) (see Tirkkonen-Condit, 1985 *passim*, Bäcklund, 1988: 48f). Metastatements may also be used to signal the type of upcoming component. In (1) above the introductory *I mean* is interpreted as a signal of elaboration (cf Erman, 1987: 118-9), and in (2) below there are three items signalling problem: a metastatement (*I'll tackle our situation*), the expression *it's rather difficult* and the connective *but*. The focusing function of metastatements will be discussed in the next section.

(2)

> C: [@m] I if you can bear with me# I *I'll tackle our situation#* *it's rather difficult#* [@m] my husband and I are both university lecturers# - *but* he is in Glasgow# (- laughs) and [@:] there not being [@] an awful lot of jobs at the moment# [@] it's difficult to know when he'll be able to get down#
>
> 8.1p 1053-1059

A fairly frequent component signal in the corpus is *so*, which may be used to introduce a solution, as in (3), or a conclusion, as in (4), where *you know* acts as an additional conclusion marker (cf Erman 1987: 114).

(3)

> R: you know I just I just feel it's a bit exhausting#
> C: [@h@]# yeah# [@h@]#
> R: *so* I just got back in my office# and relaxed for another
> C: I see#
> R: [@:m] hour and a half#
>
> 7.2f 574-579

(4)

> R: within five minutes# he could have him#in the place surveying#
> C: right# yes
> R: *so#* *you know#* the estate agent's not holding us up#
> C: no# no#

R: the fact that the vendors are away# is not holding us up#
C: no#
R: it's just the surveyor#   8.1a 111-124

In more than 50% of the structural units identified in the corpus the speakers use some kind of signal indicating what type of component they are producing at that very moment in the interaction. Table 2 shows the distribution of these marked components.

Table 2. *Distribution of components marked as to type.*

	Sit	Prob	Sol	Eval	Concl	Elab	Total
With signal	3	46	35	21	9	26	140
Without signal	21	16	31	-	15	40	123
Total	24	62	66	21	24	66	263

It appears from Table 2 that if we disregard evaluations, which are always marked, since they always contain evaluative expressions, it is above all in problem components that speakers tend to use signals to make it clear that the utterance in question is to be interpreted as a problem. A signal occurs in 75% of the problem components in the sample texts. Fairly often speakers use several signals in the same component, as in (2) and (4) above. Table 2 also shows that solutions are not as frequently marked as problems in the corpus (53% vs 75%). This may reflect degree of expectations: if a problem has been clearly stated, an adjacent solution is strongly expected, which presumably makes a signal seem less necessary. In (5) the recipient of the call signals his problem by *unfortunately* and once the problem is articulated, the solution proposed by the caller needs no special marker.[6]

(5)
R: *unfortunately*# I'm away from base at the moment# and [@m] haven't got any conference papers with me#
C: [@:] may I leave my telephone number#
R: if you would# yes#
C: [@] perhaps you could give me a ring back#
                                                  8.3c 373-379

The connective *but* is the most frequently used component signal in the corpus, with 22 occurrences.[7] As a structural signal *but* marks contrast between adjacent units; it

signals a change in the type of information, hence a change in the type of component in the problem-solution structure (cf Jordan, 1984: 68, Bäcklund, 1988: 63). This is demonstrated in (6), where the problem concerns a piece of information that neither speaker has available. After the problem has been expressed, the first *but* introduces an elaboration: R explains why he does not know the answer. The second *but* indicates another shift of component, in this case to the solution.

(6)

  C: we to our great shame# we didn't seem to know the answer# and we thought perhaps you might#
  R: [@] I know# I feel very ashamed# not to have it off pat you know# pat# on the tip of my tongue# *but* the fact is# I haven't not been as it [@] what's called conference secretary# - ... [@:m] *but* I can get the information back to you [@] quickly#

                    8.3c 312-324

With the help of component signals of the types exemplified above speakers may clarify the problem-solution structure of the conversation they are involved in. As already mentioned, however, they also have at their disposal a set of markers that indicate boundaries between structural units in general. These will be discussed in the next section.

6. Boundary signals

In the sample texts 275 boundaries between structural units have been identified, including boundaries after opening and before closing sections. In 94 instances (34%) these boundaries are given special markers by the speakers. Boundary signals between structural units in conversation have been discussed by e g Schegloff and Sacks (1973), Sinclair and Coulthard (1975), Burton (1981) and Stubbs (1983). Burton's analysis of conversation is a modification of the model proposed by Sinclair and Coulthard (1975) with Interaction, Transaction, Exchange, Move, and Act as hierarchically ordered units. Certain moves and acts function as explicit markers of boundaries in the discourse. It is Burton's categories that form the basis for the identification of boundary signals in the present investigation. For reasons of space, however, the categories in question can only be very briefly discussed in connection with the presentation of results.

As mentioned above, 34% of the structural boundaries in the corpus are specially marked by the speakers. The markers fall into two classes: signals marking the end of a unit and signals focusing on the beginning of a new unit. In 12 instances there is both an end-of-unit marker and an opening marker. This double marking may be produced by one speaker, as in (7), or both speakers may contribute, as in (8).

(7)

> C: I mean I think all you people with cars# are going to find that# you're not going to be able to run them first# you know#
> R: aargh# -- oh rubbish#
> C: (laughs)
> R: *right# now# the thing is this#* --I've got a house which is a probate sale at the moment#
>
> 8.2a 349-359

(8)

> C: it's time for you to come really#
> R: yeah# yeah# *fine#*
> C: *listen#* mother's clock# is very is running quarter of an hour slow#
>
> 7.2d 260-267

With the marker *right* in (7) speaker R signals the end of an elaboration, after which he begins a new unit, a solution component. The opening of the latter is signalled by *now* and a kind of metastatement, *the thing is this*, which is an attention-getting, focusing act (Burton, 1981: 66). In (8) R uses *fine* to mark the end of a unit, in this case of a complete problem-solution structure. C then embarks on a new minitext with a new topic and introduces this with *listen*. In the present analysis expressions such as *look* and *listen* are included in the category of summonses. Summonses are attention-getting acts that also mark discourse boundaries (Burton, 1981: 66).[8]

Beside *right* and *fine*, exemplified in (7) and (8), boundary signals marking the end of a unit in the sample texts are the items *OK*, *all right*, *all right then*, and *so*. These signals are used at 36 of the 94 marked boundaries. Items such as *OK*, *right*, etc have been termed frames when used as boundary signals (cf e g Sinclair and Coulthard 1975 and Burton 1981).[9] Stubbs (1983: 184) points out that at least some frames 'mark boundaries larger than moves or exchanges'. In the present analysis these larger units are problem-solution structures or components within such structures. It seems worth noting that these frames marking the end of a unit are in fact evaluations, albeit very short ones. In spoken monologue longer evaluations may be systematically inserted to mark off components of the problem-solution structure (see Bäcklund, 1989: 327). In conversation very short evaluations seem to be used with the same function.

Among signals that mark the beginning of a new unit summonses, metastatements, and *now* have already been briefly mentioned. Other such markers in the sample texts are *well*, *actually*, and *by the way*. Some kind of opening marker, or combination of markers, is used at 71 of the 94 marked boundaries. The reason why opening signals are more frequent than closing signals may be their double function: all opening markers in the sample texts except *well* also focus on what is going to be said (cf examples above). As for *well*, Schiffrin (1987) claims that its main function as a discourse marker is to create coherence: '*well* anchors the speaker into a conversation

precisely at those points where upcoming coherence is not guaranteed' (Schiffrin 1987: 126). In the sample texts, such points where a connecting link is deemed appropriate by the speaker coincide with boundaries between structural units. This is why *well* is considered as a boundary signal here. Its use in this function is exemplified in (9), where *well* occurs at the opening of a short solution component, which also entails a return to the main topic after an elaboration (cf Schiffrin 1987: 113).

(9)
    R: so that I don't know if that's soon enough# but I I expect it will be for him#
    C: *well* you you know have a word with him#
    R: yeah#

                                    7.2l 213-216

Reasons of space prevent a discussion about connections between structural boundaries and the organisation of turn-taking and topic shift in the sample texts. It can be mentioned, however, that structural boundaries occur nearly as often within turns (47%) as in connection with speaker change. As for topic organisation, a sequence dealing with the same topic is always made up of one or several problem-solution structures with 'topic-internal' structural boundaries (cf. above).

Finally it may be worth mentioning that boundary signals seem to be used equally often by both participants in a telephone conversation: at 50 marked boundaries in the sample texts the signals are initiated by the caller, at 44 by the recipient of the call. In this way both speakers take responsibility for clarifying the organisation of the talk.

7. Concluding remarks

One of the aims of the present investigation has been to trace macrostructural patterns in conversation. Some of the results seem to attest to the existence of such patterns. Evidently speakers sometimes find it appropriate to mark boundaries between units that are not involved in the turn-taking system or constitute a topic shift. I would like to suggest that the units in question are components in the problem-solution structure. This means that the same macrostructural pattern that can be observed in monological spoken and written text also applies to conversation.

The investigation has also shown that a model for structural analysis that has been tested on written language will give meaningful results when applied to conversation. This seems to validate the claim that there are considerable similarities between speech and writing as regards structural organisation .

The object of study has been telephone conversation. Obviously, this type of speech has certain characteristics not found in face-to-face conversation. In many respects

the two types are similar, though (Crystal and Davy, 1969: 121). Heritage (1984: 240) mentions that results from the analysis of telephone conversation 'have stood up remarkably well' in comparison with face-to-face conversation. However, more research is needed in order to test whether the observations made in this study are valid for conversation in general.

Schegloff and Sacks (1973: 299) point out that 'a pervasively relevant issue (for participants) about utterances in conversation is "why that now", a question whose analysis may also be relevant to finding what "that" is.' It is here proposed that one of the factors that help participants in a conversation to interpret the nature of an utterance and its relevance is the canonical macrostructural problem-solution pattern. And this might be the reason why so much care is taken by participants to make this pattern clear as the conversation unfolds.

Notes

1. I am grateful to Gunnel Tottie for valuable comments on an earlier version of this paper. Remaining shortcomings are my responsibility.
2. For a description of this corpus, see Svartvik and Quirk 1980.
3. The following texts from the London-Lund Corpus of Spoken English are included in the sample:

7.2a	7.2e	7.2k	8.1p
7.2b	7.2f	7.2l	8.2a
7.2d	7.2h	8.1a	8.3e

   Sample 7 (about 4,000 words) consists of conversations between people who know each other; sample 8 (about 6,000 words) consists of calls to strangers.
4. Reasons of space prevent a full description of problem-solution structures in texts and of the method of analysis. See Tirkkonen-Condit 1985 and Bäcklund 1988 for a detailed account.
5. The transcription of the examples has been simplified. Only tone unit boundaries (#) and longer pauses (-) are marked. Each example is followed by a code indicating sample text and tone units. Speakers are called C (Caller) and R (Recipient of the call). Simultaneous talk is not indicated.
6. Note, however, that with a slight rephrasing C could very well have added a solution signal, such as e g *to solve our problem* or *but perhaps I could*. Obviously she felt no need for such a signal here, though.
7. There are, of course, also occurrences of *but* functioning on sentence level.
8. These and other structural signals that mark prominence in conversation will be further discussed in Bäcklund forthcoming.
9. Cf also Schegloff and Sacks (1973) on the organisation of turn-taking. They regard items, such as *OK*, *so*, etc, as signals of possible pre-closings, i e places where either the closing of the ongoing conversation may be prepared for or, alternatively, a new topic may be introduced.

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