

Collaborating on contributions to conversations

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Abstract—Contributing to conversation, it is proposed, is accomplished in two phases. In the presentation phase, one participant ordinarily presents a stretch of speech intended to specify the content of his or her contribution. In the acceptance phase, all the participants work together to establish the mutual belief that everyone else has understood that content well enough for current purposes. The two phases together constitute a unit of conversation we call a *contribution*. The two phases may each have contributions embedded within them, so conversations consist of both sequential and hierarchical arrangements of contributions. As evidence for these proposals, we examine four types of contributions that occurred in directory enquiries of the telephone company. From this and other evidence, we argue that contributions appear to be a general feature of conversations.

INTRODUCTION

In conversation, people speak for the benefit of all the participants, to contribute to the social process they are all engaged in. To do this, they must make themselves understood to everyone. So they need to assure themselves, as they issue each utterance, that the others are at that moment attending to, hearing, and trying to understand what they are saying (Goodwin, 1981). Otherwise, the others will miss the only opportunity they'll get to hear what is said. And they need to assure themselves, before going to the next utterance, that the others have actually understood what they meant with the current one. Otherwise, they won't have contributed to the social process as intended. Speakers need their listeners' help for both these assurances, so conversations take everyone's coordination. Together, the participants bear the mutual responsibility of assuring that what is said has been heard and understood before the conversation goes on (Clark and Wilkes-Gibbs, 1986; see also Sacks *et al.*, 1974; Goffman, 1976; Schegloff *et al.*, 1977).

Contributing to conversation, in this view, requires the *collaborative* effort of both speaker and addressees. In most traditional views, the speaker's job is to issue understandable utterances, and the listener's is to understand them. Conversations proceed utterance by utterance. In the collaborative view, the speaker and addressees try to do something more at the same time: establish the mutual belief that the addressees have understood what the speaker meant. As we will put it, the speaker and addressees try to *ground* what is uttered, to establish what the speaker meant as common ground. The process of contributing to a conversation consists of both specifying some content and grounding it, and the products are units we will call *contributions*. Conversations proceed, in this view, not utterance by utterance, but contribution by contribution.

This paper is a study of contributions—what they are and how they are made. In the first section, we outline a theory of contributions, and in later sections, we

consider one type of evidence for it. The evidence comes from a large sample of calls from customers to telephone operators at directory enquiries (or directory assistance) to ask for telephone numbers. In these calls, the customers and operators take great pains to make sure their utterances are correctly understood. Superficially, these conversations seem quite different from talk about everyday affairs, and so they constitute rather special evidence for contributions. Yet, as we will argue, they reveal the same techniques that occur in everyday conversation, and what they lack in generality, they make up for in the detail with which they show those techniques.

CONTRIBUTIONS TO CONVERSATION

The heart of our proposal is that conversation proceeds at two levels. One level consists of the speaker's and addressees' focus on the topical content of the conversation, what the conversation is about. The speaker, say a woman, tries to specify the content she wants her addressees to recognize, and they try to determine what that content is. This is the only level that is assumed to exist in almost all current models and theories of discourse. But simultaneously, at another level, the speaker and her addressees all focus on grounding that content, on placing it among their shared beliefs—technically their mutual beliefs (Lewis, 1969; Schiffer, 1972; see also Clark and Carlson, 1981; Clark and Marshall, 1981). Working together, they try to reach the following criterion:

Grounding criterion: The speaker and addressees mutually believe that the addressees have understood what the speaker meant to a criterion sufficient for current purposes.

Of course, addressees may understand the speaker even though she doesn't think they do, or they may fool her into believing they have understood her when they haven't. Our proposal is that speakers and addressees each ordinarily try to reach the belief that they all mutually believe the addressees have grasped the speaker's meaning.

Overview of contributions

In this view a contribution to a conversation is a stretch of talk in which the participants specify and ground the content of a coherent piece of information. Consider this passage from our corpus (in which O stands for the female operator, and C for the male customer):

- O. Name of the people please?
- C. Mrs Lane
- O. Sorry, would you say that again please?
- C. Lane
- O. (spelling) M A I?
- C. (spelling) L A N E
- O. N for Nellie A N E
- C. No, L for London
- O. Oh! sorry, Lane, L for Leonard
- C. Yes,
- C. 50 High Street

In most traditional views, C's answer to O's question *Name of the people please?* consists solely of the utterance *Mrs Lane*. Yet, clearly, O and C didn't think the

answer ended there. That was only an *attempted* answer. C and O weren't willing to go on to the next topical utterance (*50 High Street*) until they had mutually accepted that O had understood C correctly. That acceptance took eight more turns and the collaboration of both C and O. C's answer, one could say, included not only the specification of Mrs Lane as the requested information, but also its grounding. It is the specifying plus the grounding that we term a contribution. The intuition is that C and O wouldn't ordinarily say that C had contributed the information about Mrs Lane to the conversation if they didn't mutually believe O had taken in this information correctly.

Contributions, in this theory, are produced in a collaborative process (Clark and Wilkes-Gibbs, 1986). In our example, C is the contributor, and O his partner. C initiates his contribution by uttering *Mrs Lane*. Apparently, he believes that O, hearing this, will understand what he meant. He projects that O will accept his presentation by allowing the conversation to go on. Instead, O indicates trouble hearing C and initiates a so-called side sequence (Jefferson, 1972; Schegloff, 1972) to repair the trouble. Only when C and O mutually accept that O has understood does C initiate the next contribution with *50 High Street*. Through the collaborative process of presenting, correcting, and confirming, the two participants succeed in mutually accepting that O has grasped the content of C's contribution.

But C's contribution itself contains further contributions by both C and O. When C spells *L A N E*, for example, he initiates an embedded contribution, an answer to O's query *M A I?* In this one, the two of them take five turns to reach the mutual acceptance that O has taken in C's information successfully. When O asserts *N for Nellie A N E*, she initiates still another embedded contribution, which consists of four turns. But O's assertion is wholly contained within C's answer, which in turn is wholly contained within other larger contributions, which in turn are wholly contained within the main contribution we began with—C's answer to O's question *Name of the people please?* That is, contributions are organized hierarchically. It is an empirical question to determine how they get organized this way.

The theory of contributions is based in part on the analysis of repairs by Schegloff *et al.* (1977). According to that analysis, repairs are organized according to the participants' *opportunities* for making repairs. These opportunities occur only at certain points in conversation, and this leads, for example, to a preference for self-over other-repair, and to a preference for self-over other-initiation of repair. Yet the notion of contribution cannot be reduced to the notions of repair and repair opportunity. The notion is needed to capture one of the goals people have in talking—the satisfaction of the grounding criterion. It helps define what counts as trouble, and what counts as repairing a trouble. It also helps specify *how* people reach that goal, namely via a process of mutual acceptance, which includes elements other than troubles and their repair. In short, contributions have an organization that goes beyond the organization of repair.

Basic structure of contributions

Suppose A, a woman, is the current contributor, and B, a man, is her partner. A's contribution ordinarily divides, as the Mrs Lane example illustrates, into two phases:

Presentation phase: A's initial presentation of the content.

Acceptance phase: A's and B's mutual acceptance of that content.

In the presentation phase, the main goal is to specify the content of A's contribution, and in the acceptance phase, it is to ground that content.

Presentation phase. The presentation phase in the simplest case is a stretch of speech by A that could constitute a single turn. Later we shall see that the phase may also be built out of an arrangement of embedded contributions. Let us call these two types simple and complex presentations, respectively. Like any turn, a simple presentation may be the utterance of a sentential constituent (e.g., *Mrs Lane*), a full sentence delivered under a single sentence intonation (*It's Mrs Lane at 50 High Street*), or one delivered episodically in more than one tone group (*It's Mrs Lane, at 50 High Street*). It may be a series of such utterances. It may contain any number of self-initiated self-repairs. Ultimately, like any turn, its length and composition are determined by A and B working in collaboration (Sacks *et al.*, 1974; Schegloff, 1981).

In initiating each contribution, A faces two issues: What does she want to contribute at the moment? And how much of this should she package into the current contribution, and in what form? The answers to these questions depend on many things. What is her current purpose? How much can she present and expect to be safely grounded? How can she assure the most efficient grounding—given current limitations in planning, understanding, and knowledge? We return to some of these questions later.

Acceptance phase. During the acceptance phase, A and B's goal is to establish the mutual belief that B has understood what A means. The proposal is that they do so by a process of mutual acceptance (Clark and Wilkes-Gibbs, 1986). That process consists minimally of three parts:

- (a) A presents *u* for B to consider.
- (b) B accepts *u*.
- (c) A accepts that B accepts *u*.

During the presentation phase, A places her utterance *u* into consideration. During the acceptance phase, B needs to accept *u* in a *unilateral* acceptance. For *mutual* acceptance, however, A must accept that B has actually understood. The acceptance phase includes both part *b* and part *c*.

To accept *u*, B must believe he understands what A meant by *u* (to a criterion sufficient for current purposes). He faces many potential obstacles to this belief. He may not have noticed A had uttered anything. Even if he had noticed it, he may not have heard all or part of it. And even if he had heard it, he may not have understood all or part of it. Suppose A presented the utterance *I just saw Julia*. For the word *Julia* alone—expression *e*—B could believe he is in any one of four states, each stronger than the one before it:

- State 0. B didn't notice that A uttered any *e*.
- State 1. B noticed that A uttered some *e* (but wasn't in state 2).
- State 2. B correctly heard *e* (but wasn't in state 3).
- State 3. B understood what A meant by *e*.

Ordinarily, state 3 presupposes 2, and state 2 presupposes 1, although sometimes B may understand what A meant without correctly hearing what she uttered. Matters can get even more complicated because B is often in different states for different constituents. He may be in state 2 for *Julia* but state 3 for everything else. The goal is to be in state 3 for the whole utterance.

When B isn't entirely in state 3 and cannot accept *u*, his general strategy is to initiate a side sequence to get A to help him reach state 3. As Schegloff *et al.* noted,

"First, out of the multiplicity of later turns by others that follow a potential repairable, very nearly all other-initiations come in just one of them, namely the next turn, and not in later turns by others. Second, other-initiations do not come earlier." So at the potential end of A's turn, B should let A know what state he is in, and for which parts of *u*. If he isn't entirely in state 3, A should then present information needed to get him there.

For the word *Julia*, B might signal his state of understanding in these ways:

1. B asserts he is in state 1: "I didn't hear the last word."
2. B presupposes he is in state 1: "You just saw what?"
3. B displays he is in state 2: "You just saw Julia, [but Julia who?]"
4. B asserts he is in state 2: "Yes, [but Julia who?]"
5. B presupposes he is in state 2: "Julia who?"
6. B asserts he is in state 3: "Right."
7. B presupposes he is in state 3: "And how is she?"

With 1 through 5, B signals his need for more information, and with 6 and 7, his acceptance of *u*. Actually, B does two things with each of these devices: he lets A know what state he is in; and he projects what is to happen next. With *Julia who?*, for example, he presupposes he has understood everything but who Julia is. Simultaneously, he projects A's next turn to be an answer that will bring him to state 3. If A replies *My sister Julia, from Denver*, she emends her initial presentation so that now B can accept it.

These seven techniques, initiators of the acceptance phase, are ordered from weakest to strongest (see Schegloff *et al.*, p. 369). In conversation, it has been proposed, the speaker and addressees adhere to the principle of least collaborative effort: they try to minimize the work they collectively do from the initiation of a contribution to its completion (Clark and Wilkes-Gibbs, 1986). If so, B should follow this rule:

Strongest initiator rule: Choose the strongest initiator that is consistent with understanding to a criterion sufficient for current purposes.

In our example, when B says *What?* A might repeat *I just saw Julia*, but for the stronger *You saw what?* she need only repeat *Julia*. Stronger initiators lead to briefer and more precise repairs. Schegloff *et al.* (p. 369) cite evidence that people adhere to this rule in initiating self-repair. We examine other evidence for this rule later.

Once B has accepted *u*, the next step is mutual acceptance: A must accept B's acceptance. If A can accept it, she should signal that she does. She can do so explicitly, perhaps with a phrase like *Okay*, or implicitly, by allowing the next contribution to proceed. If A cannot accept it—say, she doesn't really believe B *does* understand—she should initiate proceedings to repair that problem. We shall examine evidence about how A and B reach such a mutual acceptance.

With this proposal, then, we have a rough idea of what goes into contributions. But what form do they take in actual conversations? How do contributors initiate contributions, and what devices are used in reaching mutual acceptance? For systematic evidence, we turn to contributions as they occur in telephone calls to directory enquiries.

THE CORPUS

The main corpus we analyzed consisted of 757 telephone calls to Directory

Enquiries in Cambridge, England, in 1974. These had been recorded and transcribed in cooperation with the Post Office by Philip J. Barnard of the MRC Applied Psychology Unit in Cambridge. They were tape recorded over 17 one-hour sessions and included 19 operators, typically one per session.

We worked entirely from transcripts, since we didn't have access to the original recordings. These were done in standard orthography and showed major pauses, uses of spelling, and other such details, but not pause lengths, intonation, or overlapping speech. Here is one brief call as transcribed:

O. Directory Enquiries, for which town, please?

C. In Cambridge

O. What's the name of the people?

C. It's the Shanghai Restaurant, it's not in my directory, but I know it exists

O. It's Cambridge 12345

C. 12345

O. That's right

C. Thank you very much

O. Thank you, good bye

All the operators were women. The customers were not identified by sex in the transcripts, but were presumably about half men and half women. For convenience only, we will consider the generic customer to be male. As before, we will abbreviate the operator as O and the customer (or caller) as C. All names and telephone numbers cited are fictitious; however, all names retain the syllable structure of the originals, and all numbers, the same number of digits.

Although these transcripts are a rich source of evidence, they have certain drawbacks. For a complete analysis of contributions, we would need to consider the overlapping speech, pauses, and hesitations as well. By the use of precise timing, speakers can overlap slightly with the final piece of a previous turn to signal their understanding of that element (Jefferson, 1973), and they can briefly withhold the initiation of a repair of a previous turn to give the previous speaker an opportunity to make the repair first (Jefferson, 1973; Schegloff *et al.*, 1977). Speakers can also lengthen words, and spaces between words, to indicate difficulty or deliberate care. And they can use intonation for many purposes. For some points we will make, we consulted other transcripts and recordings, including a collection of our own, to check on these other features. Most of our analysis, however, is concerned with the content of what is said and isn't greatly affected by the lack of these details.

Most calls consisted of C requesting a private or business telephone number and O providing it. C dialled telephone enquiries and O answered *Directory Enquiries, for which town, please?* Then, in a series of exchanges, C would provide O with the name and address of the people wanted, and O would provide the telephone number. The call typically ended there with an exchange of *thank yous* sometimes followed by an exchange of *good byes* (see Schegloff and Sacks, 1973; Clark and French, 1981). Some callers asked for two or more numbers seriatim.

We will analyze four contributions in these calls: (1) C's answer to the question, *For which town, please?*; (2) C's answer to *What's the name of the people?*; (3) C's answer to the optional question *What's the address?*; and (4) O's statement of the desired number. We will call these the *town*, *name*, *address*, and *number contributions*. We will begin with the most frequent contribution in these calls, the number contributions.

NUMBER CONTRIBUTIONS

Number contributions, according to our proposal, should begin with O's presentation of a number and end with the initiation of the next contribution, here usually C offering thanks or requesting a second number. These criteria enabled us to identify number contributions without ambiguity. Not all calls contained number contributions, and that left 602 of them for analysis. Most (91%) took two or more turns, as illustrated here:

O. It's Cambridge 12345

C. 12345

O. That's right.

If the contribution model is correct, O should use turn 1 to present the number, and C and O should use the turns from 2 on to reach mutual acceptance of that number.

Presentation phase

O had several decisions to make in presenting a number. Among other things, she had to consider how much information she could present and get grounded with the least collaborative effort. If the information wasn't too much, she could pack it into a single utterance, such as *It's Cambridge 12345*. If it was too much, she had at least two options. First, she could divide the information into two or more utterances, say by asserting first *It's a Cambridge number* and then *It's 12345*. She took this option less than 1% of the time in our corpus. Or second, she could present the number in installments like this: *It's 01* [C. *yes*] *234* [C. *234, yes*] *5678* [C. *5678*]. That is, she could pause after each installment to receive confirmation from C before going on. As shown in Table 1, O took this option 17% of the time. In 95 calls, she presented the number in two or more installments; in five more, she first presented the city name and then the entire number, in two installments.

Installment presentations should be reserved for difficult numbers. In the U.K., as in Canada, the U.S., and elsewhere, there is a convention for pronouncing long numbers in certain groupings, e.g., 01-234-5678 for all London numbers, and indeed all numbers seven digits or more in our corpus were presented in such

Table 1.
Number presentations by operators ($N = 602$)

Category	Example	% Occurrence
<i>Continuous utterances</i>		
Sentential	It's Cambridge 12345	27.6
	It's 12345	4.5
Phrasal	Cambridge 12345	46.2
	12345	5.1
<i>Installment utterances</i>		
With confirmations		
Sentential	It's 01 [yes] 234 [yes] ...	8.3
Phrasal	01 [yes] 234 [yes] ...	4.8
Without confirmations		
Sentential	It's 01 234 5678	1.7
Phrasal	01 234 5678	1.8
	Total	100.0

installments. These conventions can be viewed as standard solutions to the packaging problem. People have trouble registering numbers more than six digits at a time—memory spans tend to be seven plus or minus two digits—and so the telephone company has divided them into standard easy-to-grasp groups.

But installment presentations are used even when there are no such conventions. People use them quite regularly in giving recipes and spelling difficult names (Goldberg, 1975). In our corpus, O used them on 18% of the six-digit numbers and 1% of the five-digit numbers. In every case they were used, there had been severe difficulties of understanding earlier in the call; the number of prior turns in each of these calls was greater than average. So O presented a number in installments—either by convention or on her own initiative—when she thought it was too much to grasp at once. We will consider the structure of installment presentations later.

In all 602 presentations, O could choose between a sentential utterance, like *It's Cambridge 12345*, and a phrasal one, like *Cambridge 12345*, and between *Cambridge 12345* and simply *12345*. The frequencies of these choices are also shown in Table 1. O's choice was largely a matter of personal preference; for example, the individual operators ranged from 9 to 100% in their use of phrasal utterances.

Acceptance phase

According to the contribution model, C and O should use the turns from 2 on for reaching mutual acceptance of the information C has presented. For telephone numbers, C and O's main problem is to reach state 2—that C has heard (and, presumably, written down) the digits correctly. State 3 follows without difficulty, for C can readily see what O meant by the digits. Still, C and O can take several routes to mutual acceptance, and the corpus gives evidence for each. For this analysis, we use the 502 calls with continuous presentations; as we note later, those with installment presentations yield similar results.

The first thing C should do is let O know of his state of understanding at that moment. As expected, almost all of C's first moves in turn 2 fit into these seven categories:

- (a) *Assert no hearing.* C asserts he is entirely in state 1 and thereby requests a repeat, as with *I didn't hear you* or *I didn't catch that*.
- (b) *Presuppose no hearing.* C presupposes that he is entirely in state 1 by asking for a repeat, as with *Would you say that again? What? Pardon me?*
- (c) *Presuppose incomplete hearing.* C presupposes he is only partially in state 2 by displaying the digits he did hear and by requesting O to continue, as with *12?*
- (d) *Presuppose fallible hearing.* C presupposes he is probably in state 2 by requesting assurance that he is. He does this by displaying all the digits but with a rising intonation: *12345?*
- (e) *Display full hearing.* C displays that he is in state 2 by repeating what he believes to be the correct digits: *12345*.
- (f) *Assert full hearing.* C asserts he is in state 2, as with *Right, Okay, or Got it*.
- (g) *Presuppose full hearing.* C presupposes he is in state 2 by initiating the next contribution, usually *Thank you*.

Table 2 lists the percentages of each of these responses (plus the few erroneous cases in h that we take up later).

Table 2.
Customer's first moves in turn 2 of number contributions ($N = 502$)

Category of first move	Examples	% Occurrence
(a) Assert no hearing	I didn't hear you.	0.4
(b) Presuppose no hearing	What did you say?	4.2
(c) Presuppose incomplete hearing	12?	9.4
(d) Presuppose fallible hearing	12345?	2.6
(e) Display full hearing	12345	67.7
(f) Assert full hearing	Right	3.2
(g) Presuppose full hearing	Thank you	11.0
(h) Other side sequences and errors	12345	1.6
	Total	100.0

Each of these responses should start C and O down a different path. With the strongest response, C and O can move directly into the next contribution, but with the weaker ones, they have to make repairs before going on. Let us follow the path from the strongest response first.

Presuppose full hearing. C should be able to implicate his acceptance of O's presentation by immediately initiating the next contribution. And he did, usually by saying *thank you*. But for O and C to reach *mutual* acceptance, O had to accept his implicature. Most (86%) of the time, she did this by letting the next contribution go forward e.g., by replying *thank you* in return. The rest of the time, she responded either *right* or *right thank you*. So when C presupposed full hearing, he was almost always assured of an immediate mutual acceptance.

Assert full hearing. C should also be able to assert his full hearing of the number. This he did only rarely, with *right*, *okay*, *all right*, *I see*, or *I've got it* (in order of frequency).

Once C has asserted full hearing this way, there are two ways C and O might proceed. C could immediately initiate the next contribution himself e.g., by saying *Thank you*. Or he could return the floor to O to do so. Either way, C and O would achieve mutual acceptance. But at this point in the call, it is C's and not O's job to initiate the next contribution, and this he did 79% of the time. The remaining times O accepted C's *right* either by initiating the next contribution or by saying *right*. So taking this path, C and O always reached mutual acceptance.

Display full hearing. C's commonest first move in turn 2 was to display his full hearing of the number, as with *Cambridge 12345* or *12345*. If his display was correct, O could infer he had heard her correctly, and they could quickly reach mutual acceptance. If it contained an error, she would detect and correct it before they went on to the next contribution. So the technique would work whether C was right or wrong. C may also have repeated the digits to help keep them in memory as he wrote them down.

In turn 2, C could make moves e, f, and g in combination—displaying, asserting, and presupposing full hearing. Now, the strongest initiator rule orders the three moves g, f, and e in strength. Presupposing full hearing is stronger than asserting full hearing, which is stronger in turn than displaying full hearing. So once C had responded g, he shouldn't make the weaker claims f or e, and once he had responded f, he shouldn't make claim e.

This is precisely what happened. Table 3 lists these combinations and how often they occurred. There we find instances of only $e + f$, $e + g$, $f + g$, and $e + f + g$. In one possible exception, the turn 1234, *thank you dear, right, bye*, the *right* doesn't seem to assert the correctness of the number but to say that C is finished with what he called for. All in all, the ordering of e , f , and g supports our analysis of acceptance.

Table 3.
Operator's (O) positive turn 3 responses to caller's (C) turn 2 displays of numbers ($N = 343$)

C's turn 2 display	O's turn 3 responses	% Occurrence
12345 (63.6%)	right	87.2
	thank you	6.4
	right thank you	1.8
	right OK?	0.9
	[continue on]	3.7
12345 thank you (32.4%)	thank you	40.5
	right	5.4
	right thank you	4.5
	[continue on]	8.1
	[no opportunity]	41.4
12345 right (0.6%)	right	100.0
12345 right thank you (3.5%)	thank you	16.7
	right thank you	16.7
	right	8.3
	[continue on]	8.3
	[no opportunity]	50.0

After C's lone display of the number in turn 2, O should feel obliged in turn 3 to indicate the correctness of that display. Most (89%) of the time, she did this with a simple *right*, *that's right*, *yes*, or *okay* (as used in decreasing frequency). Two other times she repeated the last digits of the number first. The rest of the time she immediately initiated the next contribution. Each of these ways O completed the mutual acceptance.

What should O have done in turn 3 when C made moves f , g , or both in addition to move e , the display of the number? If move g implies move f , which implies move e , O need only deal with C's final move, whether it is g , f , or e . As Table 3 shows, O did just that almost all (96%) of the time. Several other times, she responded to *both* a pre-final move *and* the final move, also in accord with this logic. The rest of the time she said *right* and nothing more; in all these cases, the conversation had already run into severe difficulties because of a bad connection.

When O presented both the town and the number in turn 1 (e.g., *Cambridge 12345*), C had a choice in turn 2 of how much to display. To minimize collaborative effort, he should display no more than he needed to have confirmed. In most calls, C didn't need to confirm the town name since he had just specified it himself in answer to O's *For which town, please?* So, as expected, most (92%) of the time he displayed the number alone (e.g., *12345*). When he did display both (e.g., *Cambridge 12345*), nearly half the time either (a) the town had been mentioned in

turn 1 for the first time in the call, or (b) C hadn't been sure of the town. These two conditions almost never held when C repeated the number alone.

Of course, the number C displayed in turn 2 could be incorrect, and O detected 13 such errors. C was never entirely wrong. He had either reversed two digits (e.g., 12354), omitted a digit (e.g., 1245), or produced a wrong one (e.g., 12385). How should O deal with these errors? As Levelt (1983) and Levelt and Cutler (1983) would argue, she should identify both (1) the part of the number in error and (2) its correct form. She could accomplish this by repeating the entire number 12345, and this she did 10 of the 13 times; three of these times she played safe and went to an installment presentation. Or she could accomplish both requirements by repeating the final part of the number, starting on the first wrong digit (e.g., 45). This she did twice. Presumably, she also accented the incorrect digit, as Levelt and Cutler found.

O's corrections in turn 3 were treated as if they were new presentations at turn 1 and were followed by the same turn 2 and 3 devices as described earlier. So, as predicted by the collaborative model, mutual acceptance was a cyclical process: each presentation could be amended or replaced, and the result amended or replaced, until a formulation was mutually accepted by the two parties.

Dealing with failures of understanding

On 83 occasions C indicated in turn 2 that he was in state 1 (noticing but not hearing) for some or all of O's initial presentation. How should he initiate the acceptance process? By the strongest initiator rule, he ought to indicate the parts he did hear, or the parts he didn't hear, and request O's help in reaching states 2 and 3 (correct hearing and understanding). This is precisely what he did, using one of the first four devices listed in Table 2. Devices a and b specify the parts he didn't hear, and c and d, the parts he did hear.

Presuppose fallible hearing. Sometimes C displayed all or the last few digits, but added a rising intonation, as in 12345? or 45? With this display, C suggested he was unsure of these particular digits, so he was asking O to confirm them. Indeed, O always replied either *yes* or *right*.

Presuppose incomplete hearing. Other times C repeated the *first* few digits with a rising intonation, as in 12? To these, O could have responded in turn 3 with the missing digits 345 alone, the missing digits plus some retracing (e.g., 2345), or the entire number 12345. When C's incomplete display had no error, O took these options 71, 6, and 23% of the time.

Presuppose no hearing. Still other times, C used turn 2 to request the entire number again, as with *What?* or *Sorry?* or *Pardon?* In so doing, he implied he hadn't heard the number well enough to make it worthwhile to repeat even one or two digits—although we have no way of checking this. To these questions, O was expected to repeat the entire number, and she always did so. Her repeat was then treated as the presentation phase of a new contribution, and the acceptance process was reinitiated.

Assert no hearing. In two calls, C asserted in turn 2 that he hadn't heard anything, thereby requesting the entire number again by implication: *Sorry, I didn't catch that bit* and *Sorry, I can't hear, there was a crackle*. Both times O complied, starting the cycle again.

Sometimes O treated C as if he had made an error in turn 2, even though he

hadn't—at least explicitly. Four times, she queried his understanding, as with *Okay?—12345* and *Did you say 5?* Three other times, after C had displayed 12345 in turn 2, she supplied the town name (e.g., *Avonmouth*) in turn 3, which C in turn treated as a presentation for another contribution. O repeated the town name like this only when it hadn't been mentioned before in the conversation.

Even when O and C had completed a number contribution and gone on, there was no guarantee that C had the number right. Either O or C may later have found reason to mistrust C's knowledge of the number. Ten times, in fact, C repeated the number or town name even after he and O had gone on to a new contribution. In another six cases, O repeated the number or town name after they were in a later contribution; these reminders all appeared in conversations in which there had been many problems because of a poor connection.

TOWN, NAME, AND ADDRESS CONTRIBUTIONS

Next we examine contributions in which C provided O with the town, name, or address of the people whose number he wanted. These were taken from ten calls from each of 18 operators. Many calls didn't include an address, leaving a total of 391 contributions. For these contributions, C realized that O needed not only the name but its spelling, so he often spelled the name either spontaneously or on request. We took spellings to be part of the presentation or acceptance process except in answer to questions like *And how is that spelled?* when we treated them as separate contributions.

Name, town, and address contributions should proceed very much as the number contributions did, but they should also reveal what happens as contributions vary in difficulty. For O, towns should be easiest to recognize, since they were few in number and quite familiar—many were Cambridge itself. Addresses should also be easy. By the time O asked for an address, she was looking in her directory at the people's name and was comparing the address she heard against those in the book. Names should be quite difficult, since they were diverse, were often unusual, and had to be identified exactly for O to find them in her directory. Combinations of two or three of these types of information should be most difficult of all. The more difficult the contribution is to recognize, the less often O should presuppose full hearing and the more often she should initiate a more involved acceptance process.

The presentation phase

Telephone calls to directory enquiries are a special type of call. When C rings O, he presupposes that O is there to satisfy his requests for certain types of information—telephone numbers, dialling codes (equivalent to Canadian and U.S. area codes), and sometimes street addresses. (In our corpus, C requested these and other types of information.) In ordinary calls, the caller is the one who is expected to initiate the first topic of conversation (Schegloff, 1968). C might therefore expect to initiate the first topic by asking O for the information he wants—the telephone number, dialling code, street address, or whatever.

In our calls, however, O confounded both expectations by broaching the first topic herself with *For which town please?* In doing this, she (unlike C) presupposed that C could only be requesting a telephone number. She also broke the expectation about the caller raising the first topic. So, when C wanted only a dialling code, as sometimes happened, he had to ignore O's initial question.

Apparently, O had been instructed to begin this way in order to speed up answers to the usual request for a telephone number; she needed the town first in order to pick out the right telephone book. If C was familiar with this practice, he should have expected this unusual beginning, but if he wasn't, he shouldn't have. As it happened, C usually accommodated to O's question and answered it. Yet 21% of the time C acted as if he hadn't heard it and began doing what he would ordinarily do—asking O for the number and providing the name, then address, then town, as here:

O. Directory Enquiries, for which town please?

C. Could you give me the phone number of umm Mrs umm Smithson?

O. Yes, which town is this at please?

C. Huddleston.

O. Yes. And the name again?

C. Mrs Smithson

When C did this, O invariably rejected his presentation and asked him to repeat each piece of information in the order she needed them—town, then name, then address. In these calls, it was the follow-up contributions that we analyzed.

In our sample, C always presented the needed information in a single utterance without installments. He used phrasal utterances such as *Huddleston* 72% of the time, and sentential utterances such as *It's Huddleston* the rest of the time. Again we found no pattern in the use of sentential versus phrasal presentations.

The acceptance phase

The acceptance phase should proceed very much as in number contributions, and it did. O's initial moves in turn 2 of all 391 contributions are summarized in Table 4 for the hypothetical presentation *Ross and Fox Limited*. They fell into the same eight categories as for number contributions, though without examples of category assert no hearing. They also led C and O down the same paths. Here we will consider features that are special to town, name, and address contributions.

In turn 2, as expected, O often presupposed or asserted full hearing of C's presentation (e.g., with *thank you* or *yes*). How often O did this should have varied with how easy C's initial presentation was to recognize—with towns being easiest and names hardest. It did. O took one of these two options 39% of the time for towns, 33% for addresses, 15% for names, and 10% for combinations of these. Recall that C took this option 14% of the time for numbers. So the less difficult the information, at least roughly, the more likely O was to presuppose full hearing of it.

When O displayed full hearing, she repeated or spelled some or all of C's words, or did both. When C's presentation in turn 1 was more than one word long (e.g., *Adam Smith Staff Bureau*), O generally displayed only the first part (*Adam Smith*), presupposing full hearing of the rest (*Staff Bureau*). For number contributions, if only part of the number was displayed, it was the *final* part instead. The difference seems clear. With towns, firm names, and addresses, it is generally the first part that is critical. With numbers, all parts are critical, so displaying the final part shows that all parts have been received.

As in the number contributions, turn 2 often consisted of two or more of the moves e, f, and g—displaying, asserting, and presupposing full hearing. As expected, they were invariably produced in this order. We found instances of e, e + f, e + g, e + f + g, f + g, and g, but no others. Moreover, C could respond in turn 3

Table 4.

Responses by operators in turn 2 in name, address, and town contributions ($N = 391$)

Category of first move	Example	% Occurrence
(a) Assert no hearing (0%)	—	0.0
(b) Presuppose no hearing (7.2%)	What?	7.2
(c) Presuppose incomplete hearing (12.3%)	Ross?	7.9
	Ross what?	1.3
	R O S S?	2.0
	Ross R O S S?	1.0
(d) Presuppose fallible hearing (10.5%)	Ross and Fox?	9.2
	Ross and Fox what?	0.8
	R O S S and F O X?	0.3
	Ross and Fox R O S S?	0.3
(e) Display full hearing (45.3%)	Ross (and Fox)	13.6
	Ross (and Fox) R O S S (and F O X)	1.0
	R O S S (and F O X)	1.3
	Ross and Fox yes	1.3
	Ross and Fox yes thank you	1.5
	Ross and Fox thank you	25.1
	R O S S and F O X thank you	0.3
Ross (and Fox)? thank you	1.0	
(f) Assert full hearing (2.0%)	Yes thank you	2.0
(g) Presuppose full hearing (23.0%)	Thank you	23.0
	Total	100.0

Note. Capital letters (e.g., R O S S) denote explicit spelling.

to only the last of these moves, and he did. There were no cases, as there were in number contributions, in which C responded to more than one of them. In three cases, however, O used *yes* before *e*, as in *Yes, the Cambridge Theatres*; we take this *yes* to signal that O has registered that C has finished his presentation, but we need more evidence to confirm this.

When O responded in turn 2 with the display of a town, name, or address by itself, she was refusing to initiate the next contribution and was forcing C to deal in turn 3 with the information she presented. As expected, C responded with the equivalent of *g*, *f*, or *e*. Sometimes (28% of the time) he presupposed O's display to be correct by continuing on. More often (42% of the time) he confirmed O's display and then allowed her to initiate the next contribution. As expected; he accomplished this with *yes*, *that's right*, *that's correct* and *right* (in decreasing order of frequency). A few times (8.8% of the time) he repeated O's display, after which C either asserted or presupposed its correct hearing (move *f* or *g*). Repeats like this never occurred in the number confirmations, though we are not sure why. The point is, acceptance was a recursive process, with each new step able to initiate a new round.

Dealing with failures of understanding

In 117 contributions, O was fully or partly in state 1, having noticed C's initial presentation but not having heard it to her satisfaction. What O did in turn 2 is summarized in Table 5.

Table 5.

Responses by operators (O) in turn 2 of town, name, and address contributions when they failed to understand ($N = 117$)

Category of O's response	Example	% Occurrence
(b) Presuppose no hearing (23.9%)	What?	100.0
(c) Presuppose incomplete hearing (41.0%)	Ross?	64.6
	R O S S?	16.7
	Ross what?	10.4
	Ross R O S S?	8.3
(d) Presuppose fallible hearing (35.0%)	Ross and Fox?	78.0
	Roth and Fox	9.8
	Ross and Fox what?	8.3
	R O S S and F O X?	2.4
	Ross and Fox R O S S?	2.4
	Total	100.0

Note. Lettering for categories of O's response corresponds to Table 4.

Dealing with these failures proceeded much as in number contributions, with a few differences. With an incompletely heard name—suppose it was *Ross and Fox Limited*—O displayed what she had heard and requested more in two main ways—*Ross?* or *Ross what?* With incompletely heard numbers, in contrast, C used the first device (e.g., *12?*) but never the second (*12 what?*) Otherwise, C responded to O's requests by re-presenting all or the critical part of his initial presentation, by spelling it, or by doing both—in a variety of combinations. C often changed the style of his re-presentation to make it clearer than the original. In 11 cases he divided it into installments when he hadn't done so in turn 1; O also did this in number contributions. In 13 other cases, he spelled out the name or address where he hadn't done so in turn 1. So when faced with problems, C and O would simply take another cycle in the acceptance process, often with clearer re-presentations.

HIERARCHIES OF CONTRIBUTIONS

In our proposal, one contribution C_1 can have another contribution C_2 embedded within it. Contributions are organized not just sequentially but hierarchically. The question is how? For the contributions we have examined, the answer is rather different in the presentation and acceptance phases.

Complex presentations

In 95 of the number contributions, as we noted earlier, O presented the number in installments, as in this example:

O.01
 C. yes
 O.234
 C. yes
 O.5678
 C. 01 234 5678
 O. That's right

[C. Thank you very much]

But what did O do here? Did she make a single number contribution with three

parts, or did she make three contributions? We will argue she did both.

The first pair of lines of this sequence has all the appearances of a standard contribution. In the presentation phase, O uttered *01* as package of information to be mutually accepted before going on. In the acceptance phase, C asserted correct hearing with *yes*, which O accepted by proceeding to the next contribution. Similarly, lines 3 and 4 together constitute a separate contribution, and so does line 5. So O and C achieved three contributions at the same level, each adding one more portion of the total telephone number.

Together, however, these three contributions constitute the presentation phase of the more inclusive number contribution. The first evidence for this is that the full number contribution itself has an acceptance phase. In lines 6 and 7, C displayed the entire number *01 234 5678*, which O confirmed with *that's right*. The scope of this acceptance process was not just the final four digits *5678*, but the entire number. These two turns match turns 2 and 3 of a great many of the continuous number contributions we examined earlier (see Table 3). Indeed, C used all the same initiators after the final installment as he used after continuous number presentations—at least moves *c* through *g* in Table 2. It was just that, because he had already confirmed the first two groups of digits, he was more likely to be able to assert or presuppose full hearing of the entire number. The full number contribution, under this analysis, takes the form pictured in Fig. 1. In our notation, C denotes a contribution, Pr its presentation phase, and Ac its acceptance phase. Contributions C_2 , C_4 , and C_6 together form the presentation phase of contribution C_1 .

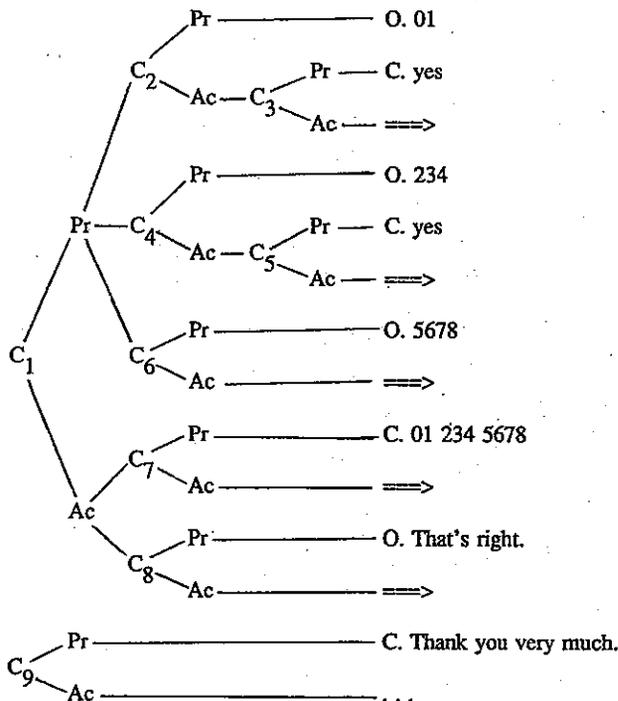


Figure 1. Contribution tree for a telephone number presented in installments.

Evidence from intonation reinforces this analysis. In the two examples of installment number contributions from telephone calls found in the London-Lund corpus (see Svartvik and Quirk, 1982), each non-final installment by O ended in a rising or a fall-rise intonation followed by a brief pause, and each final installment ended in a falling intonation. So with each non-final installment, O signaled that there was more to come, and with the final installment, that it was the last. C's confirmations followed suit. Each non-final confirmation ended in a rising intonation, a signal that more was expected, and the final one ended in a falling intonation, a recognition that the installment was the final one. Much the same observations have been made by Goldberg (1975) for a large sample and variety of installment utterances. So installment presentations divide information into portions to be accepted on their own, yet carry the intonation of a single utterance, to be accepted as a whole.

In our corpus, furthermore, C gave different responses to the non-final and the final installments. In the example just cited, C confirmed the first two installments with *yes*, but the last one with nothing. This was typical enough. For the non-final installments, C uttered *yes* alone (37% of the time), displayed the digits (27%), or did nothing. For the final installment, however, C never uttered *yes* alone. Either he displayed its four digits (57% of the time) or he did nothing. (In only 21 of the 95 cases did C confirm none of the installments separately.) So the lone *yes* served as what Schegloff (1981) has called a *continuer*. Using it, C signaled that he was passing up the opportunity to ask O to repair what she had said so far, so she should continue. Indeed, C several times did initiate repairs on non-final installments, with such initiators as *sorry I can hardly hear you* and *it's what?* and *234?* After the final installment, when C had no need to ask O to continue, he had no need to use the continuer *yes*.

Often, then, the presentation phase of a contribution itself consisted of a succession of parallel contributions, each with its own presentation and acceptance phases.

Hierarchical acceptances

When contributions get embedded into the acceptance phase, they tend to produce right-branching structures. Consider this characteristic example:

O. And the name of the people?

C. Maddox and Kirby Limited

O. Maddox and Kirby

C. Yes.

O. It's Huntingdon 12345

As Fig. 2 represents, the main contribution of interest is C₂, the customer's answer to *And the name of the people?* Its presentation phase consisted of C's utterance *Maddox and Kirby Limited*, and its acceptance phase, of turns by O and C. But when O uttered *Maddox and Kirby* in the acceptance phase of C₂, she was initiating her own embedded contribution C₃. Its presentation phase consisted of a display of the name *Maddox and Kirby* as a way of asking C to confirm whether or not it was correct. Its acceptance was accomplished by C going on to comply with that request by uttering *Yes*. But *Yes* itself was the initiation phase of a contribution C₄, and its acceptance was accomplished by O proceeding to the next main contribution—the assertion of the wanted telephone number.

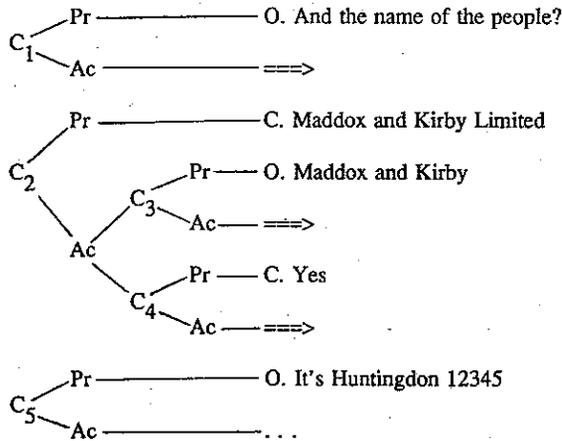


Figure 2. Contribution tree for a name contribution.

The contribution trees in Figs. 1 and 2 illustrate several general properties about contribution hierarchies:

(1) Every unit a speaker utters belongs to the presentation phase of some attempted contribution. C and O's seven utterances in Fig. 1, and their five utterances in Fig. 2, each constitute the presentation phase of a contribution.

(2) Every mutually accepted alternation in speakers, whether a turn or not, initiates a new contribution at some level. In the installment presentations in Fig. 1, C's uses of *yes* each mark a mutually accepted alternation of speakers, even though, as Schegloff (1981) has argued, they do not constitute taking a turn. Each new turn in Fig. 2 also ushers in a new contribution. Note that if a second speaker were to try to interrupt the current speaker and fail, that would be an unaccepted alternation in speakers and so would not initiate a new contribution.

(3) In many contributions, the acceptance phase is accomplished simply by the same or next speaker continuing on. We have denoted this by an arrow. In Fig. 2, for example, C's presentation of *yes* needed grounding, since it might not have been heard or understood completely. Apparently, however, it was deemed so easy to understand that it didn't need a special side sequence for grounding. Instead, O and C reached mutual acceptance when O initiated contribution C₅ and C allowed her to do so. The arrow therefore denotes mutual acceptance reached by one or the other person continuing on and the other allowing it.

(4) The arrow allows us to state an important stopping rule for acceptance phases: *Every acceptance phase must end, ultimately, with a speaker presupposing acceptance by continuing on* (as denoted by the arrow). In Fig. 2, C's *Maddox and Kirby Limited* was finally accepted when C's *yes* was mutually accepted by O going on. Suppose instead that O had responded to C's *yes* with *Did you say yes?* to which C had responded *What did you say?* to which O had responded *Did you ask me what I had said?* and so on. The acceptance phase could in principle spin off into infinity. We have yet to see it do so, though the Mrs Lane example seemed headed in that direction. It is the presupposed acceptance, represented by the arrow, that prevents this from happening.

So contributions in general are arranged in hierarchies. Our data provide evidence for several types of arrangements. There are undoubtedly more.

GENERAL DISCUSSION

Our proposal is that people in conversation engage in two activities—content specification and grounding. Through speaking and listening, they each work to establish the content of what is being said. At the same time they try to establish the mutual belief that everyone has understood that content well enough for current purposes. To accomplish this grounding, they collaborate in creating units of conversation we have called contributions—stretches of speech plus the grounding of their content. We have examined evidence that people create contributions in calls to directory enquiries. We will suggest that they do so in other conversations too, though we would need more evidence to say precisely how.

Structure in contributions

Making a contribution, in our proposal, is accomplished in two phases—a presentation phase and an acceptance phase. Our data offer concrete evidence for some of the forms these two phases can take. As before, we will speak of a contributor and his or her partner.

The presentation phase took two basic forms in our telephone calls. Usually it consisted of a brief uninterrupted stretch of speech from the contributor, as in *It's Cambridge 12345* or *Maddox and Kirby Limited*. Sometimes it was much longer, as in *It's the Shanghai Restaurant, it's not in my directory, but I know it exists*. On many occasions, however, it consisted of a succession of parallel contributions by the same contributor, as in *It's 01 [C. yes] 234 [C. 234, yes] 5678 [C. 5678]*. Together, these installments made up a presentation that was accepted as a whole. O used conventional installments for long numbers. But often she also resorted to installments when she had to repeat information that C had misheard the first time around.

The acceptance phase took on different shapes depending first and foremost on the method used for initiating it. There were three basic methods in our data:

Method 1: The partner presupposes acceptance of the contributor's presentation by going on to the next contribution at that level. Consider this example:

O. Directory enquiries, for which town, please?

C. It's for Cambridge

C apparently believed he fully understood O's presentation, so he tacitly accepted it by initiating the next contribution at the same level—an answer to the question (see Sacks *et al.*, 1974; Goffman, 1976). Method 1 is denoted in Figs. 1 and 2 by an arrow.

For mutual acceptance, not only must the partner accept the contributor's presentation, but the contributor must accept the partner's acceptance. In the last example, O accepted C's acceptance by allowing him to go on. But the contributor may discover from the partner's next presentation that his or her acceptance was based on a misunderstanding, as O discovered in the second turn here:

O. Directory enquiries, for which town please?

C. Ah! Could you give me the number of Mr. E. Michaels?

O. In which town?

C. Oh, sorry! Royston

When O detected the misunderstanding, she tacitly rejected C's attempt to go on by repeating her question *In which town?* (Schegloff *et al.* have called this a third turn repair.) C recognized his mistake in this case and apologized *Oh, sorry!* before

answering. If the mistake isn't too serious, the contributor may find it more convenient to accept it by accommodating to it without letting the partner know; and if the misunderstanding isn't revealed in the partner's turn, the contributor may not even catch it (see Jefferson, 1972; Suchman, 1985). So in method 1 it isn't enough for the partner to accept the contributor's utterance as understood. The contributor must accept that the partner has understood it well enough for current purposes.

Method 2: The partner asserts acceptance of the contributor's presentation, allowing the contributor to retain or retake the floor. The partner typically does this with expressions such as *yes, uh huh, right, and I see*. Consider this example:

C. London E.C.2

O. Yes

C. Can I have the Lawrence Lumber Yard at Moorfields?

Here O accepted C's presentation by asserting *Yes*, meaning "Yes, I understand, so continue". Then C tacitly accepted O's assertion by initiating the next contribution at the same level as the town name. With that step C and O reached mutual acceptance.

For a variety of reasons, the contributor may not accept the partner's simple assertion of understanding, and he or she can then do something about it. Consider this example:

O.0804

C. 04

O. Yes okay?

C. Yes

O. Have you got it?

C. Yes, okay

(O and C hang up)

Although C asserted full understanding in turn 4 with *yes*, O didn't accept it. As in the Mrs Lane example, there had been earlier problems because of a bad connection. So it was only with C's reassurance that O was willing to accept C's acceptance and treat the contribution as complete.

With method 2, the partner's assertion of understanding with *yes, uh huh, mhm, I see*, etc., can occur at various levels of prominence. It is most prominent as a full turn, as in answer to O's *Yes okay?* in the last example. It is less prominent as a full continuer after a turn by the contributor, as after *London E.C.2* in the previous example. It is still less prominent as a full continuer invited by contributor in the middle of an utterance, as in the installment presentations we have examined.

Its least prominent form—but probably its commonest—is as a *reduced* continuer, often called a back-channel response. As Oreström (1983) has documented for a large sample of everyday conversations, these are generally uttered in a prosodically reduced form—more quietly, narrower in 'nuclear pitch width', or lower in pitch. About four fifths of them occur at grammatical boundaries, often overlapping with the contributor's speech at the end of the preceding clause. They appear intended to signal understanding through the end of the current clause—even when they are not precisely at a grammatical boundary, as here (Svartvik and Quirk, 1982, p. 35):

A. I shall not be away from home then until at any rate the end of

B. m

A. about the end of August . . .

Unlike full continuers, reduced continuers are often uttered without the contributor pausing to invite them at particular locations; still, they appear to be expectable at or near many clause boundaries and are heard as absent when they don't occur.

One final class of method 2 devices—even less prominent than reduced continuers—are the non-verbal signals of understanding. These include head nods and other orienting signs so common in face-to-face conversations (see Goodwin, 1981).

Method 3: The partner requests the contributor's help in dealing with a possible mishearing or misunderstanding of the contributor's presentation. In our corpus, the way these requests got made ranged from displays of full hearing, which requested a confirmation of what was displayed, to assertions of no hearing, which requested a repeat of the presentation. The contributor invariably tried to deal with these requests, and the two of them went on to the next contribution only when it was mutually accepted that the request was satisfied.

In brief, the partner's initiation of the acceptance phase took three basic forms: presupposing full understanding (method 1), asserting full understanding (method 2), and requesting information he or she believed was needed for full understanding (method 3). The rest of the acceptance phase was shaped accordingly, as contributor and partner worked to reach mutual acceptance.

Contributions in general

How general is the notion of contribution? All our evidence comes from conversations in which it is crucial to both parties to establish full understanding. In conversations on more everyday topics, it might be argued, we shouldn't find contributions.

But grounding appears to be just as systematic a feature of everyday conversations as it is of directory enquiries. It is merely less obvious. There are two reasons for this. In everyday conversations, the participants' 'current purposes'—recall the grounding criterion—tend to require much less stringent understanding. Also, each contribution tends to be much easier to understand. For both reasons, the current partner will more often begin in state 3 so that mutual acceptance will be reached without the participants taking extra turns in the process. That is, the current partner can usually initiate the acceptance phase by presupposing or asserting full understanding (method 1 or 2).

The five types of contributions we have examined support this analysis. Once the contributor made his or her presentation, the partner would often presuppose or assert full hearing. The partner took this step most often for towns (39% of the time), then addresses (33%), then names (15%), then numbers (14%), and least often for combinations of towns, addresses, and names (10%). Roughly, the easier the information was to grasp, or the less important it was, the more often the partner presupposed or asserted full hearing. With even more commonplace contributions, the participants should proceed via methods 1 and 2 even more often.

This appears to be what happens. By our proposal, a new contribution is initiated (usually by method 1, sometimes by method 3) every time one person's turn ends and a second person's begins. In the everyday conversations studied by Oreström, new turns were begun after a median interval of only 13 words; two thirds of all

turns were less than 20 words long. By our proposal, a new contribution is also initiated (by method 2) every time the partner uses a full or reduced continuer like *yes*, *uh huh*, or *mhm*. These were also frequent in the conversations Oreström studied. For example, in turns more than 30 words long, they occurred after a median interval of just nine words; 80% of the time there was at least one continuer every 15 words. Since these conversations were face-to-face, the participants were also presumably using head nods, smiles, and other non-linguistic signals to assert full understanding (see Duncan and Fiske, 1977; Goodwin, 1981). From our own survey of the London-Lund conversations, we have found examples of all of the method 2 initiators listed in Table 2—as well as others.

Contributions *should* be a regular feature of everyday conversations. Whenever people converse, they engage in a collective activity. The content of their conversation belongs to them all as a collective. But if so, they must not only specify that content—they must ground it. They need contributions.

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