Methodological Imperatives for Investigating the Phonetic Organization and Phonological Structures of Spontaneous Speech

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Abstract

We describe and exemplify a methodology for providing an integrated account of the communicative function of parametric phonetic detail and its relationship with interactional organization. We exemplify our analytic approach by documenting two different phonetic designs of stand-alone 'so' in a corpus of recorded American English telephone conversations. These two designs – which encompass particular loudness, pitch and laryngeal characteristics – correlate with different communicative functions and have different consequences for the interactional-sequential organization of the talk. We argue that if phonology is to be truly concerned with function and linguistic contrast, we need to induce those functions and domains of contrast from a thoroughgoing phonetic and sequential analysis of talk-in-interaction.

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Introduction

The advent of large speech databases has yielded dramatic increases in quantitative information about aspects of spontaneous speech. However, much contemporary work on spontaneous speech exhibits one or both of the following problems: first, where communicative functions are appealed to in accounting for phonetic organization, they are invoked in an *ad hoc* fashion and not systematically warranted in and through the interactional behaviour of interlocutors; second, there is an overly selective handling of phonetic material.

In this paper, we describe and exemplify a methodology which is designed to obviate these problems by providing an integrated account of the communicative function of parametric phonetic detail and its relationship with interactional organization. The approach we describe differs from other contemporary approaches to the phonetics of spontaneous speech in a number of respects. For instance: its data derive entirely from naturally occurring talk-in-interaction, it combines qualitative analysis of interactional structure with detailed qualitative and quantitative parametric phonetic techniques, and it seeks to identify the interactional tasks managed by clusters of phonetic

events [see e.g. Local and Walker, 2004]. We exemplify our analytic approach through an interim report on an investigation into *stand-alone* '*so*' in a corpus of recorded American English telephone conversations. This work is part of the output of an ongoing research programme investigating phonetic detail and phonetic variability in the management of everyday talk-in-interaction.

Methodological Imperatives

In this section, we set out a number of imperatives for the investigation of the phonetic organization and phonological structures of spontaneous speech. These imperatives are a response to the recognition that language and particularly phonetic organization is best understood 'in context' [Firth, 1935] in terms of the contingencies of turn design and the organization of turn-taking, and the organization of sequences through which trajectories of action and stance are accomplished. The central implication of this position is that phonetic and phonological aspects of language should *in the first instance* be understood as shaped by *interactional* considerations [Curl et al., 2004; Ford and Couper-Kuhlen, 2004; French and Local, 1983, 1986; Kelly and Local, 1989b; Local, 1992, 1996, 2004, 2005; Local and Kelly, 1986; Local et al., 1986; Local and Walker, 2004; Local and Wootton, 1995; Walker, 2004a,b].

(1) Only use data drawn from talk-in-interaction. ('*Talk-in-interaction*' refers to talk produced such that some element of interaction between participants occurs and includes, for instance, business meetings, unscripted lectures and interviews; '*conversation*' refers specifically to 'talk which is *not* subject to functionally specific or context-specific restrictions or specialized practices or conventionalized arrangements, in the way in which courts of law in session *are*, or classrooms, or religious ceremonies, or news interviews, or talks at scholarly and scientific meetings.' [Schegloff, 1999, p. 407, emphasis in original].) This imperative arises not simply because of the ecological validity or naturalness of such data. Rather, the organization of talk-in-interaction provides for the demonstration of participants' orientations to the analytic categories proposed (although these resources regularly go untapped in phonetics/phonology research). Moreover, there may be practices available to participants in talk-in-interaction which might not arise from even the most careful introspection.

(2) Conduct phonetic and interactional analysis in parallel and not serially. We do not see communicative function as a way of 'explaining away' audible properties of the speech signal. Rather, when dealing with data drawn from talk-in-interaction, we take the view that phonetic detail and interactional function are inextricably linked, and that one does not exist without the other. The way in which we conduct the analysis is intended to reflect that: we pursue a formal interactional analysis hand in hand with phonetic analysis and not simply as some optional extra.

(3) Demonstrate the orientation of participants to any categories posited or analytic claims made. If we wish to make a claim that some auditorily available phonetic characteristic is an important element in the structuring of a particular turn or sequence, the analysis is required to provide evidence that participants themselves treat it, or *orient* to it, as important [Drew, 2004; see also Goodwin and Heritage, 1990; Heritage, 1984, 1989; Levinson, 1983; Schegloff, 1987, 1988, 1996; Wootton, 1989]. A reliance on participant orientation to warrant claims ensures that the practices being described have some kind of reality for the participants and are part of their functional

linguistic competences. A reliance on participant orientation also liberates us from analytic intuition and quasi-psychological speculation as to the motivating force behind the behaviour in question. In undertaking these kinds of analysis, the search for evidence of participant orientations may involve the analyst in protracted examination of collections made up of small fragments of data. These analyses have great heuristic value in making investigators aware of relevant phonetic and functional details and their relationships. The phonetic-functional correlation can then be analysed in a systematic way, in line with normal scientific principles of modelling natural and social phenomena. The claim that such an analysis is more than a purely analytic construct but reproduces and explicates the bases of participants' understandings is a strong one. In view of this, the painstaking approach to interactional structure becomes understandable not as a matter of whim or indulgence but as one of absolute technical analytic necessity.

(4) Ensure that any analytic account handles single cases as cogently as it does the aggregate. There are two main reasons for this. First, setting the basis for statistical analysis of 'interactional' phenomena in a way which is informed and informative in terms of representing the behaviour of the participants is highly problematic; a particularly eloquent account of some of these problems can be found in Schegloff [1993]. Second, no quantitative measure of frequency of occurrence alters the fact that an episode of interaction occurred in *that* way on *that* occasion for *those* speakers [Schegloff, 1987; Wootton, 1989]: any singular occurrence is the result of a set of practices available to those participants for so conducting interaction. It is through the collection and analysis of single fragments that we build the aggregate description which in turn may ultimately facilitate the modelling of any single fragment as the output of a number of variables in the speech communication process.

(5) Subject each fragment to close inspection during repeated listenings. All claims – be they phonetic or sequential – should be based on what can be heard in the audio/video recordings. Moreover, candidate findings in all domains should be referred back to the audio/video recordings for empirical verification and testing. As Firth remarked: 'A theory derives its usefulness and validity from the aggregate of experience to which it must continuously refer in renewal of connection.' [Firth, 1957b, p. 168].

(6) Treat all details at all levels as of potential relevance to the participants. We simply do not know, from the outset, which details might be of relevance to the participants and might have a communicative function. This imperative does not apply only to phonetic details (where we endeavour to be as open-minded as we can, and consider as many parameters as possible as potentially relevant) but also to other levels of organization (e.g. lexis, syntax, sequence organization and gesture in the case of face-to-face interaction).

(7) Be attentive to place in sequence and to place in structure. In order to make claims about the functioning of clusters of phonetic parameters and phonological organization, it is essential to establish robust comparability of instances. We need to understand, for instance, the precise syntagmatic relationships which turns and sequences of turns contract with each other. One important benefit which results from the approach we set out here is that it enables the analyst to establish functional structural sameness and to compare like with like both phonetically and interactionally.

The analysis that we present in the next section implements each of the imperatives. We discuss interactional-sequential and phonetic details which indicate that participants design, produce and orient to two functionally different kinds of stand-alone 'so'. The data are drawn from the transcribed parts of the CALLHOME American

English Speech corpus, which consists of dual-channel recordings of 120 unscripted telephone conversations lasting up to 30 min. All calls were made from North America, and most were made to family members or close friends overseas; in all cases, both parties were known to each other prior to the call. The recordings (8 kHz ulaw) are of a sufficiently high quality to allow for reliable auditory and acoustic analysis.

Stand-Alone 'So' in American English

It is well known that the item 'so' can occur in various positions in turns and sequences, and has various functions in the speaking turn [Schiffrin, 1987]. Local and Kelly [1986] provided some detailed specification not only of the interactional functioning but also of the phonetic variability of items such as 'well', 'but', 'uh' and of turn-initial and turn-final 'so' before various kinds of pauses in talk. While working on aspects of turn construction and sequence/topic organization [Local and Walker, 2004], we uncovered some sequentially rather different cases of 'so' which were not only disconnected from the *following* talk by silence (as in the data form Local and Kelly), but also disconnected from *prior* talk by silence [see also Raymond, 2004]. Moreover, we observed that these 'so' tokens could be produced by participants after their own talk or after or during the talk by another participant (Local and Kelly were concerned with prepausal 'so' tokens produced by a current speaker).

Sequential Organization

Data fragments 1 and 2 provide exemplars of the phenomenon of interest. For the purposes of the analysis presented here, we only consider instances of 'so' produced in the clear (i.e. not in overlap with the talk of another participant). The target 'so' is in bold type in each case. Here we give only relatively systematized orthographic representations of the talk derived from more detailed working transcriptions [Ball and Local, 1996; Kelly and Local, 1989a,b]. They are presented as simply as possible to enhance readability, while reflecting aspects of the sequential organization of the talk; under no circumstances should these written records be mistaken for 'the data'. Turns at talk run down the page with the speaker identified at the left-hand edge. Onset of overlapping talk is indicated by left-hand square brackets, '['; the end of overlap may be indicated by right-hand square brackets, ']'. Silences are measured in seconds and enclosed in parentheses, e.g. (0.2); a period in parentheses indicates a silence of less than one tenth of a second. Audible breathing is indicated by 'h', with each 'h' indicating one tenth of a second; audible inbreathing is indicated by 'h', or sequences of 'h', preceded by '.': .hhh. We use $^<$ to indicate pulmonic suction stops.

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(1)   En6033-1127
1     A:      I said (0.4) what's the best (0.4) to do (0.3) take the freeway (0.2) .hhh
2             or go and take the city streets (0.4) the city streets
3             (0.3) don't take the freeway (0.3) you know and
4             so I thought (.) okay you know because that's (.) you know
5             (0.2) high rise [you know] and I thought
6     B:                      [mm hm   ]
7     A:      .hhhhhhhhh
8             (0.4)
9     A:      so
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10		(0.4)
11	A:	I started out (.) oh my gosh (0.2) pt$^<$ .hhh I [got I]
12	B:	[mmmmmmmmmmm]
13	A:	was just (.) I'm in (0.4) you know where I work it's right down town

In fragment 1 – as in all instances of stand-alone 'so' – silence sets off 'so' from what preceded it and what follows it. Here, 'so' (after a silence of 0.4 s) is followed by an on-topic continuation by the 'so'-producer. The talk preceding the 'so' is concerned with reporting a discussion which A had with work colleagues concerning the best route to take on a trip. Following the 'so', A delivers what is clearly a next instalment in that telling, continuing to recount how her journey was taken. Notice there is no interactional evidence that when A continues to talk at line 11, she has done something misplaced, unwarranted or untoward: A's talk at line 11 is not designed with any features which might mark it out as sequentially misplaced or unoccasioned [Schegloff and Sacks, 1973; Levinson, 1983, pp. 312–316], speaker B does not attempt to come in immediately after the 'so', nor does she behave in a way which could have indicated inappropriateness of A's continuation. For instance, B could have talked in overlap with A at line 11 in such a way as to attempt to curtail A's turn. Indeed when B does talk she produces an extended, aligned in-overlap receipt of the launch of the next part of the telling (line 12).

Fragment 2 shows an instance of 'so' with a different interactional function.

(2)	En4074-695	
1	A:	it has an offboard power supply which they didn't steal
2		(0.5)
3	B:	hhhhh[h
4	A:	[which makes the thing that they stole absolutely worthless
5		(1.1)
6	A:	[huh huh
7	B:	[hah
8	B:	hh
9		(0.5)
10	B:	.hhhhh
11		(.)
12	A:	.hhhhhhh
13		(0.2)
14	A:	**so**
15		(0.2)
16	B:	bizarre
17		(0.2)
18	B:	bizarre

In fragment 2, there is speaker change following the 'so' such that it is B who talks next. Speaker A has been recounting at some length an incident in which various pieces of equipment had been stolen from his home. He brings the story towards possible conclusion with an assessment (line 4). This does not get immediate uptake or appreciation from his co-participant, and neither speaker makes a move to take a turn. Instead, there are long silences, quiet laughter and long inbreaths (lines 5–13). What is observable is a disengagement by both speakers from further on-topic talk. In producing a turn consisting entirely of the item 'so' (line 14), A demonstrably does not produce talk which is topically linked with or topically develops prior talk *nor* does he take the opportunity to initiate talk on, for instance, a new topic [Schegloff and Sacks, 1973]. Subsequent to this turn, neither speaker produces any further talk on the prior or indeed any other topic. Speaker A proffers no talk whatsoever while, following a silence, B produces

(at lines 16 and 17) a canonical *double* which provides an assessment of A's story ('bizarre ... bizarre', lines 16–18; for an account of the topic/sequence closing function of doubles in talk-in-interaction, see Curl et al. [2004]). It appears that in this interactional context, one of the functions of the 'so'-turn is to indicate that, at this point, the speaker does not wish to offer any further talk. In doing this, the 'so'-producer provides his co-participant with the opportunity to take a turn and initiate talk possibly with a new topic (see also Schegloff and Sacks [1973, p. 315] on 'pre-topic closing offerings').

We argue that it is the precise phonetic design of these 'so' tokens that warrants these different interactional treatments such that in fragments such as 1 the same speaker continues with more on-topic talk, while in fragments such as 2 there is change in speakership. We refer to 'so' tokens of the type exemplified by fragment 1 as *holding-'so'* and those exemplified by fragment 2 as *trailoff-'so'* [see also Local and Kelly, 1986].

There is a range of diverse interactional and phonetic designs for stand-alone 'so' tokens in the CALLHOME corpus. Among these 103 cases of stand-alone 'so', there are 'so' tokens which solicit more talk, and have rather different phonetic shapes (e.g. rising pitch and noticeably extended duration: features which are not characteristic of the holding- and trailoff-'so' tokens we describe here); 'so' tokens which preface upshots, and 'dropped in' 'so' tokens which are produced in overlap with a next speaker's turn.

Our description here focuses on instances of stand-alone holding-'so' and trailoff-'so' (n = 31 of which 10 are holding-'so' tokens and 21 are trailoff-'so' tokens). It has been suggested that 31 cases represents a 'rather rare phenomenon'. To the best of our knowledge, there are no robust statistics on the frequency of occurrence of interactional tasks and practices in everyday spontaneous talk-in-interaction which would enable us to assess the rarity of the phenomenon we describe [Schegloff, 1993]. We focus on these practices in order to explore how phonetic and interactional organization might be related. We endeavour to show how two particular clusters of phonetic parameters have consistent relationships with contrasting communicative functions. We do not propose a complete account of all instances of stand-alone 'so' in the CALLHOME corpus. However, we believe that this analysis taps into two core uses of stand-alone 'so' in everyday conversation.

Phonetic Organization

Not only is the interactional organization different in fragments 1 and 2, but the phonetic design of 'so' is quite different in each case: in fragment 1, 'so' is relatively high in pitch, relatively loud, with final glottal closure, while in fragment 2, it is relatively low in pitch, relatively quiet, with no final glottal closure.

All acoustic measurements were made using the praat speech analysis software [Boersma and Weenink, 2005]. It is not clear how best to reflect the local and relative nature of loudness and pitch configurations in naturally occurring, spontaneous talk-in-interaction. In an attempt to offer some quantification which reflects the audible characteristics of the talk, we established two simple measures. Intensity differences were estimated from the local decibel maximum in the accented part of the final foot of the speaker's preceding talk and the local decibel maximum in the voiced portion of the 'so' token. F_0 differences were estimated from F_0 measurements at the local decibel maximum in the accented part of the final foot of the speaker's preceding talk and at the local decibel maximum of the voiced portion of the 'so' token. The difference was converted to semitones (st) relative to the preceding F_0 measure.

There are obvious limitations with these measures. For instance, the vowels with which 'so' is compared may have different degrees of opening which may confound the intensity measures. Additionally, the temporal proximity of 'so' to preceding talk by the same speaker varies and this may have a bearing on participants' production strategies for marking local pitch and loudness relationships. We make no strong claims about how these particular measures might relate to participants' cognitive representation of loudness and pitch.

As a group, the holding-'so' tokens (n = 10):

(1) are noticeably *louder* than the same speaker's preceding talk (mean difference: 7.9 dB, max difference: 14.8 dB, min difference: 1.5 dB, SD: 5.4);

(2) are noticeably *higher in pitch* than the same speaker's preceding talk (mean difference: 7.5 st, max difference: 17.8 st, min difference: 1.2 st, SD: 5.5);

(3) have *final glottal closure* which may, but need not, be accompanied by oral closure;

(4) may have a *short period of final creaky voice* before the final glottal closure but never elsewhere in the token [for those tokens with preglottal creaky voice, mean: 66.7 ms (= 17% of voiced portion), max: 190 ms, min: 20 ms, SD: 59.8], and

(5) have a pitch which may be *level, falling or falling-rising* (level = 2/10, falling = 7/10, falling-rising = 1/10).

As a group, the trailoff-'so' tokens (n = 21):

(1) are noticeably *quieter* than the same speaker's preceding talk (mean difference: −5.6 dB, max difference: −0.3 dB, min difference: −18.0 dB, SD: 5.8);

(2) are noticeably *lower in pitch* than the same speaker's preceding talk (mean difference: −7.8 st, max difference: −37.7 st, min difference: −0.2 st, SD: 8.8);

(3) *never have final glottal closure*, though some have accompanying labial oral closure with voiceless egressive nasal airflow (n = 8/21);

(4) may have *creaky voice initially, medially, finally or throughout* the whole of the voiced part of the token (for those tokens with creaky voice, mean: 203.6 ms (= 80% of voiced portion), max: 362 ms, min: 40 ms, SD: 89; for those tokens with final creaky voice, mean: 232 ms (= 88% of voiced portion), max: 362 ms, min: 97 ms, SD: 73), and

(5) have a pitch which may be *level, falling or falling-rising* (level = 5/21, falling = 14/21, falling-rising = 2/21).

The intensity differences, F_0 differences and differences in the duration of creak between the two types of 'so' are statistically significant. Employing Welch's approximation to the degrees of freedom in order to provide a conservative estimate for *p* under conditions of heterogeneity of variance, intensity differences: t(18) = 6.5, p < 0.0001; F_0 differences: t(27) = 6.07, p < 0.0001, and duration of creak: t(17) = 4.24, p = 0.0005.

There are no significant differences between the two groups in terms of the overall range of F_0 excursions of the 'so' tokens or the overall duration of the voiced portion of the 'so' tokens. Similarly, there are no correlations between F_0 contours and phonatory features: holding-'so' tokens – which always have glottal closure – occur with the full range of contours, i.e. level, falling, falling-rising; among the trailoff-'so' tokens, the full range of contours, occurs both with and without creak. It has been shown for German [Kohler, 1987] that an early F_0 fall in the accented vowel, as against a rise-fall, strengthens low pitch and functions as an indicator of conclusion (vs. new start) of an argument. It might be hypothesized, therefore, that the two types of 'so' token would

differ in terms of pitch synchronization with the vowel. However, this does not hold for our data set: early F_0 falls distribute across both types of 'so' token.

We note, however, that the voiced portion of holding-'so' is relatively long: 350 ms (on average, 25% longer than in trailoff-'so'). That the holds would be regularly longer than trailoffs indicates that although they have final glottal closure they are not prematurely curtailed as in e.g. certain forms of self-repair which are terminated with glottal closure [see e.g. Jasperson, 2002].

Sequential Organization Revisited

We have shown correspondence between particular clusters of phonetic events and interactional behaviour, i.e. who speaks next following the production of 'so'. However, there are cases (n = 7/21) where, following a 'so' token designed with trailoff phonetics, the 'so'-producer continues speaking, as in fragment 3.

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(3)  En4686-340
1   B:      I think I'll give him a call (0.5) next (0.4) next [coup] this weekend
2   A:                                                    [yeah]
3   A:      yeah just to (0.4) surprise him
4           (0.5)
5   B:      yeah
6   A:      act act better than him by giving him a call you know what I mean
7           (0.2)
8   B:      yeah
9           (0.5)
10  B:      yeah
11          (1.0)
12  A:      so
13          (0.5)
14  A:      how's mom and dad
15  B:      doing pretty good
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Given our earlier claims about the importance of single-case analysis, we can ask whether the particular case of fragment 3 and others like it where it is the 'so'-producer who speaks next, refute the claim that trailoff phonetics does indeed mark completion and turn yielding. Careful consideration of their interactional design indicates that they do not. First, neither A nor B orient to the 'so' in fragment 3, which occurs in the environment of disengagement by both speakers from on-topic talk and is therefore like the trailoff-'so' in fragment 2, as anything other than complete. Second, when speaker A does produce more talk (line 14), its format provides explicit evidence that his 'so' was designed to be complete: his next move is to solicit talk on a new topic from his co-participant through a first pair part 'wh'-interrogative (line 14). At line 15, B accedes to the initiation of the new topic, and in doing so orients to the topic change as a legitimate next action following the 'so'.

Example such as fragment 3 above demonstrate the importance of careful close analysis of the interactional structure. Just because co-participants *could* speak after the production of a trailoff-'so' (and indeed certain other complete turn types) does not mean that they *have* to, or that it is problematic if they do not (see Sacks et al. [1974] on how speakers can self-select following points of possible turn completion). There is no simple relationship between the two different clusters of phonetic events we have identified and whether or not speaker change occurs. This lack of simple correspondence between phonetic design on the one hand and interactional organization on the

other is a clear demonstration that detailed phonetic and interactional analysis must be conducted hand in hand in order that each may inform the other.

Summary and Implications

We have documented two different phonetic designs of stand-alone 'so'. These two designs (which encompass particular loudness, pitch and laryngeal characteristics) correlate with different communicative functions and have different consequences for the interactional-sequential organization of the talk. We have been able to document these different forms and communicative functions by bringing together parametric phonetic analysis and participant-driven analysis of sequences of talk as they emerge over time.

In order to make our case about the interrelationships between phonetic design and interactional organization, we have focussed on a tightly defined phenomenon: the stand-alone item 'so'. However, these findings can be directly related to findings from earlier work in the same paradigm [e.g. Local and Kelly, 1986] and they reflect larger generalizations about speakers' use of phonetics in conversational interaction. The phonetic features of holding which have been identified are not restricted simply to co-occurrence with the item 'so'. A consideration of data whose full exegesis is beyond the scope of this paper shows that one highly recurrent sequential location for the phonetic holding features is to be found where a current speaking turn is subject to incursive talk so as to hold the turn until the incoming speaker has ceased to talk. Likewise, trailoff phonetics consonant with the kinds we describe here can be found where 'so', designed to be non-turn-competitive, is produced in overlap with ongoing talk [Wells and Macfarlane, 1998]. It also has a more general application in environments where on-topic talk is petering out [Local et al., 1986].

On the basis of this study and others employing this methodology, we propose that if we wish to advance understanding of speech communication and account for the organization and functioning of phonetic detail in everyday talk-in-interaction, we need to

(1) treat all phonetic resources equally and not give analytic privilege to one kind of phonetic parameter over another;

(2) provide rigorous analytic evidence for the observable orientations of interlocutors to the phonetic characteristics described, and

(3) develop a theory of phonetic exponency which relates to a sequential action-based analysis of talk-in-interaction.

In explicating the phonetic resources which participants deploy in managing the construction of meaning and the organization of talk-in-interaction, we intend to contribute to the understanding of what might constitute a phonological analysis. Much contemporary phonological work trades on assumptions about lexical meaning, syntactic structure and intuitively ascribed pragmatic functions with little or no attention to their locus of primary occurrence in stretches of real-time talk-in-interaction. It is our view that if phonology is to be truly concerned with function and linguistic contrast, we need to induce those functions and domains of contrast from a thoroughgoing analysis of talk-in-interaction. This inductive approach is evident in a number of studies to date. For instance: Local [1996] reports findings concerning the lack of pitch contrast in valenced news receipts; Local [1986] provides an account of the linguistic function of overall pitch height and pitch range in understanding checks or so-called 'echo-questions'; Ogden [in press] argues that the contrastive sets of exponents of agreeing versus

disagreeing with a first assessment constitute a phonological opposition; Wells and MacFarlane [1998] provide a radical deconstruction of prosodic accentuation and its phonological status as projecting turn-transition relevance or not; Walker [2004b] demonstrates that careful consideration of request sequences shows that a cluster of phonetic characteristics (e.g. pitch, duration, vowel quality – openness/centralization/peripherality – and loudness) which have contrastive status elsewhere cannot be shown to be phonologically contrastive at the beginnings of particular kinds of turn.

One outcome of the approach we have described here may be the reconfiguration of what we understand as 'function' in the context of phonetic and phonological analysis. This might involve the reconfiguration of phonetic and phonological systems and structures such that they represent the kinds of phenomena which we have shown to be meaning-bearing in our analysis of 'so'. It is clear that such a phonology would need to have a broader semiotic conception of meaning than is available through lexical distinctiveness and propositional meaning [Ogden, 2001]. It will certainly need to be sensitive to the polysystemic and multistructural organization of talk [for extended discussion, see Local, 2003]. Furthermore, the separation of phonetic parameters into 'segmental' and 'suprasegmental' domains may turn out to be an essentially arbitrary one and not detectable in the deployment of phonetic resources by participants engaged in talk-in-interaction [see also Curl 2004; Curl et al., 2004; Local and Walker, 2004]. Whatever the theoretical outcomes, if we wish to say things about the work that fine phonetic detail does in talk, it is crucial that we strive to account for the situated use of linguistic resources in the construction of meaning.

Acknowledgments

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