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# THE DEVIL IS IN THE DETAIL: AN INTERACTIONAL-PHONETIC STUDY OF G-WORD INTERJECTIONS AND SOME METHODOLOGICAL IMPLICATIONS

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## ABSTRACT

This paper illustrates the methodological contributions of Conversation Analysis-Interactional Linguistics to the study of the phonetic and prosodic design of interactional phenomena using conversational corpora. It presents as a case study the analysis of a collection of 74 “(Oh) (my) God” interjections from 3 hours of the CallFriend corpus. We argue that to fully describe conversational practices, an initial exhaustive qualitative approach is required that jointly incorporates interactional and parametric phonetic analyses, so as to better inform how data is to be grouped according to interactionally-relevant criteria (i.e. position, composition, and action) and what phonetic-prosodic features can get eventually measured and compared. This study demonstrates how phonetic-prosodic phenomena that quantitative results may treat as outliers or which get hidden in the sea of de-contextualised aggregate data are in fact speakers’ orientations to particular moment-by-moment interactional demands of the local context and thus have an import and organisation of their own.

**Keywords:** phonetics of talk-in-interaction, conversation analysis, qualitative approaches

## 1. AN INTERACTIONAL VIEW OF PHONETICS

Phonetics and phonology studies frequently quantify phenomena with (quasi-) experimental corpora mostly collected at the lab. While this is a necessary approach to isolate, control and study particular features, when it comes to determining the role of phonetic and prosodic phenomena in interactional practices -which are context-free and context-sensitive [1]-, the use of conversational data and an association with qualitative approaches becomes paramount.

The phonetics of talk-in-interaction (PoTI; see [2], [3]) is a growing field of phonetic research on naturally-occurring audiovisual data informed by the empirical and inductive methods of Conversation Analysis (CA) and Interactional Linguistics (IL) [1], [4]. Phonetics is considered one of the many resources that co-participants in interaction deploy in real time to carry out social actions (e.g. requesting, repairing, agreeing) and make them recognisable to each other. CA-IL sees the general smoothness of interaction as the result of the successful resolution in real time of “problems” [5] such as securing intersubjective understanding and affiliation needs, the management of turn-taking and of sequences of initiating and responding action, the design of turns, repair, and the calibration of affiliation. By using participants’ displayed behaviours (“participant orientation”) in next turns as endogenous evidence as well as cumulative evidence from prior research, CA-IL seeks to explain both the single case as well as the aggregate of collections of cases [6].

This paper argues for the importance of a careful qualitative inspection and analysis of conversational data in order to determine interactionally-relevant data groupings and phonetic-prosodic features before doing a quantitative analysis of the aggregate -which may hide some of the local forms of organisation. To demonstrate this, we present an exploratory interactional-phonetic study on the interjectional phrase (Oh) (My) G-word (OMG, henceforth) from a corpus of telephone conversation data. As interjections are context-dependent for their meaning and valence ascription, we show how engaging the methods of CA-IL can shed light on how phonetic-prosodic phenomena are *orderly* deployed to meet particular interactional demands of ongoing courses of action in conversation in what would otherwise be seen as “messy” data.

## 2. BACKGROUND

Interjections are often taken to be peripheral to language as they are semantically empty, partly phonologically “anomalous” [7] and syntactically unbounded. OMG interjectional phrases [8] in particular are called “expletive” as the G-words (e.g. God, Jesus) have undergone semantic bleaching away from prayer and swearing [9, 10] to be used to manage aspects of subjectivity, textuality, and interactivity [11], [12] in a multifunctional way. Interjections are not necessarily structurally unbounded: they are deployed in specific slots in the interactional structure [13] and belong in ordered sequences of initiating-responding actions to which they may be prosodically integrated [14]. It is in interaction that interjections (as often ambiguous “liminal signs” [15]) acquire social meaning.

Prior CA/IL research has found expletive interjections to happen in response to “good/bad news” and troubles-talk (i.e. complaint and misfortune stories) sequences. OMG in particular has been related to the systematic public display of “surprise” (a newsworthy event that interactants treat as counter to expectations [13]) as well as to the expression of disgust, sympathetic dismay or an engaged empathetic response [16] to someone else’s experience. In [17], “Oh God” is treated as a variant of “oh”-prefaced news receipts, where surprise is indexed through the initial glottalization of the vowel in “oh” and wide rising-falling pitch contours. In a study of affect in complaint stories ([18]), OMG and similar alternatives are produced with participants upgrading or matching each other’s pitch, loudness or voice quality to manage the fittedness of their mutual (non-)affiliative responses. Because OMG orients to informings and tellings, it may prosodically tie to the design of those initiating actions as well as responses as above. [19] describes how good news tend to be produced with high pitch level and range, abrupt step-ups, louder volume and faster speech rate. Bad news, on the other hand, tend to feature lower pitch level and narrower range, lengthened vowels on which the falling pitch is extended, a slower speech rate and breathy or creaky voice. Our study shows how co-participants orient to both the phonetic-prosodic design of initiating actions as well as to that of each other’s responses.

## 3. DATA AND METHODS

This exploratory analysis of the interactional and phonetic-prosodic properties of OMG interjections is based on 10 telephone conversations (3 hours) from the US English CallFriend corpus [20] rendering 126

G-word tokens, of which 74 featured the words “God/Gosh”. The interactional analysis involved the transcription of the extracts using GAT-2 transcription conventions [21] and an inductive description of each, focusing on social action and sequential organisation [22] to register the position and composition [23] of OMG along these lines (adapted from [24]): *position in the sequence (initiating or responsive) and turn (beginning, middle and end); position in the turn relative to other material (pre-positioned, post-positioned, standalone; in overlap or in the clear); social actions OMG implements (stance or affect displays, affiliation, organisation of interaction, other); social actions OMG responds to and their timing (adjacent or delayed); responses to OMG; composition (lexical, syntactic, phonetic-prosodic, other).*

The interactional overview resulted in detailed individual analyses of single cases which were then grouped into collections around patterns of similarity. Of the five subcollections, two feature OMG in initiating slots and three in responsive position. Here we report the analysis of two collections of responsive OMG as displays or surprise or sympathy.

The phonetic analysis was initially done auditorily, incorporating impressionistic observations into the GAT-2 and IPA transcriptions, and parametrically, that is, registering different levels of phonetic detail without ruling out, a priori, the relevance of any feature in OMG tokens and adjacent turns [25], including: *prosodic boundaries, accentuation and  $f_0$  contours and shifts; voice quality shifts; duration (at/within the segment and syllable level); tempo and rhythm (noting if any, presence of perceptual isochrony); perceptual levels of loudness; phonetic features surrounding the production of individual forms (e.g. pre-glottalisation, hold and release of plosives, monophthongisation).* Given dialectal differences across the corpus, vowel qualities for “God” were not measured. Acoustic validation of the registered information was done via manual Praat [26] analyses for those OMG tokens where the audio and voice quality allowed for it, acknowledging the potential effects of telephonic transmission damping of frequencies below 300 Hz. Textgrids at syllable level were created and pitch and boundary accents annotated using a loose ToBI-style system [27]. Fundamental frequency measures were plotted in semitones relative to each speaker’s range and baseline. Microprosodic errors in pitch objects were manually corrected. Samples of both phonetic and interactional analyses of the collection were presented for discussion and validation at five different data and lab sessions during 2022.

#### 4. LOOKING AT PHONETICS INTERACTIONALLY: EVIDENCE FROM “OH MY G-WORD”

Our interactional-phonetic analysis confirms the context-sensitivity of OMG while also revealing some interactional normativity. OMG interjections occupy identifiable positions in the sequential structure of interaction supporting the ongoing courses of action, from where they take part of its phonetic-prosodic design. The following account summarises the results of the qualitative interactional phonetic analysis of cases where OMG used by co-participants to affiliate through displays of surprise or sympathy. The examples illustrate how while there are recurrent features, other configurations of OMG are the result of prosodic matching and upgrading [29] of the design of surrounding turns. The table below summarises the constructions identified for the responsive OMG interjections:

INTERACTIONAL STRUCTURE	
OMG: responsive in second position (parentheses indicate optional components) A: [news informing / telling with + or - valence] B: [(oh) (my) G-word] [(assessment)] [(ritualised disbelief)] A: [(yeah/ I know) (elaboration or expansion of informing or telling)]	
I: affiliating with positive stance: surprise displays	II: affiliating with negative stance: sympathy, dismay
PHONETIC-PROSODIC FEATURE CLUSTERS	
<i>Oh</i> : often pre-glottalised, longer duration <i>My</i> : usually shorter in duration	
<i>God</i> : longer duration [g]: long hold phase, often aspirated/breathy release [d]: audible breathy or vowel off-glide release	<i>God</i> : longer duration [g]: long hold phase (initially voiced), ejective-like release, aspiration/slow friction noise release [d] normally lenient and audible breathy or vowel off-glide release
f0 contours: Sequence of two rise-falls	f0 contours: Sequence of two falls      Sequence of two narrow falls (fall-to-mid) or narrow fall + level tone starting around estimated midline of speaker's range or higher
L*+H-L? L*+H-L-L% OH (MY) GOD	H* L-?    H* L-L%    H* H-?    ^H* H-H% OH (MY) GOD    OH (MY) GOD    OH (MY) GOD
Wider f0 excursion Pitch above estimated speaker's midline, sometimes falsetto	Narrower f0 excursion Pitch around speaker's midline Breathy and whispery voice qualities
Prosodic matching in subsequent assessments Prosodic matching with features of the prior turn news/telling	Prosodic upgrading in subsequent interjections. Prosodic matching with features of the prior turn news/telling.

**Table 1:** Summary of interactional and phonetic analyses of two collections of OMG.

In these contexts, OMG is used as a responsive item, pre-positioned to an assessment or a ritualised disbelief marker [13] or as a standalone item. OMG is not intrinsically positively or negatively valenced, and our collection shows that even when no assessment follows that could confirm that valence (compare OMG in Ex.1:line 11 with Ex.1:line 22 “cool”), co-participants’ orientations to OMG (Ex.1:line 23 “I know”) reveal them to be adequate responses, and this is the kind of endogenous evidence that CA-IL uses to ground their claims, with those recurrent prosodic features in similar contexts then coming to the fore as potential disambiguators.

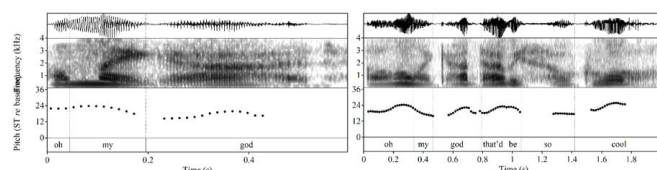
For announced or retold events shown to bear positive valence, the responsive OMG interjection is designed with a cluster of phonetic-prosodic features that

coincide with what prior studies have associated with displays of surprise: perceptually louder and higher in pitch level than in surrounding talk, a wider pitch excursion and series of two rise-fall contours, one completing its domain over “oh my”, the other on “God”. Example 1 shows a participant making a positive announcement (being able to access extra funding) formatted as recently newsworthy (“just”, line 6) and with an incremental building of the unexpectedly positive aspect of the news (a pause after “money” in line 8, an increase in pitch in “eight”, line 9).

#### Example 1: TBCF6239\_Script

```

05 DEB: °hhh so `nO::w all <<all> i have to do> is my <<cr>`THEsis, >
06 and <<all> I've just found `OUT =
07 =that even if i just write a> `SCRIPT for it;=
08 =i can GET (.) ?u:hm:: `M:oney, (0.4)
09 like ↑`EIGHT thOusand <<cr>↑`Dollars::: (.)
10 [SO:: ]
11 SAR: [↑`OH my] `GO::D.h°
12 DEB: °hh `SO::: (0.4) <<cr> uh like to lIve `ON i `gUEss,=
13 DEB: =while im `WRITing i?> (.) °hh
14 <<all> so `nOw im trying to> FIGure out whether i wAnna `DO:
15 (0.6)
16 the `SCRIPT <<all> that im working on> rIght `NOW, =
17 or do a `DIFFerent one, =
18 =tha? (.) i? can Actually use sOME of that `MONEY;
19 <<cr> to do REsEarch fo:r it.> =
20 =[↑`SO:]
21 SAR: [↑`O::H] my. `GOD. =
22 =[↑`THAT would be] so:: <<cr> ↑`CO[:OL.]>
23 DEB [°hhh ] [I ] ↑`KNO::W.
  
```



**Figure 1:** Transcription and acoustic visualisation (waveform, spectrogram, and f0 in ST scaled to speaker’s range) of OMG tokens in Ex1 (lines 11 and 21)

At a projectably complete point in the turn where appreciation of the news is a relevant-next, Sarah responds with an OMG token in overlap with Debbie’s trail-off “so” (line 10). “Oh” is relatively short (0.04 secs), and there is a reduction of tempo and vowel lengthening in the vowels of “my” and “god”, whose final sound is produced with lenition and released audibly with glottal friction. The rise-fall contours do not exhibit great excursion ( $\wedge 1.7$  ST  $\vee 4$  ST for “oh”;  $\wedge 5$  ST towards the peak and  $\vee 2$  ST down for “God”). Next, Debbie confirms the positive valence of the news (line 12) and elaborates on the positive implications (lines 14-18). In a timely manner once again at a point of potential completion and in overlap with the trail-off conjunction, Sara orients to the positive news with an upgraded “oh my God” with two wider rising-falling tones, with the pitch excursion spanning “oh my” being 7 ST, while that for “God” is of 5.5 ST. The stance positioning is now verbalised semantically through an explicit positive assessment (“that is so cool”) that is prosodically matched to OMG in pitch contour and

loudness, marking coherence between the stance conveyed by both.

The design of OMG can also be locally-relevant with prosodic matching as above but with initiating turns by other speakers. In this case, speaker F2's OMG matches the pitch contour, falsetto voice quality and loudness increase of the announcement and displays alignment with the positive stance:

### Example 2: TBCF5000\_AnotherCall

```
09 F2: ((talks to someone else while waiting on the line))
10 F1: MAYa?
11 F2: (0.2)
12 ^YE::A[:h.]
13 F1: [you] wOuldnt believe whO that ^WAS,
14 F2: ^WHO:.
15 F1 <<f> ↑↑^Rachel.>
16 (0.2)
17 F2 ;oh my <<f> ↑↑^GO::D.uh°>
18 F1: ^I ^KN[O:W].
```

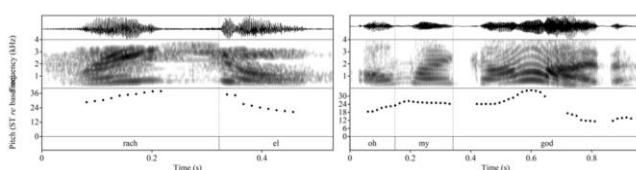


Figure 2: Acoustic visualisation (waveform, spectrogram, and f0 in ST scaled to each speaker's range) of news item + OMG token in Ex 2

OMG tokens also appear as responses to troubles-talk and tellings where experiences or individuals are ascribed negative valence, and are oriented to by displays of dismay or sympathy [16]. These tellings are escalated incrementally [30] until they reach a climax, and thus we may also see escalation and upgrading in co-participant responses. Several cases in this subcollection show lexical and prosodic upgrading from “oh God” to “oh my God”, and while the first version is breathy or whispery and perceptually soft (piano) with lenition processes on “God”, the second version is produced with modal voice quality a two falling-to-mid tones with minimal pitch excursion. These second versions tend to feature glottalisation on the onset of “oh”, a longer vowel in “God”, and a long hold phase to the plosive sound, as well as an ejective-like quality or a fricative release for /g/.

In Example 3, Stefanie projects a telling and a list (“so much has happened”, line 1; “I mean”, line 4), to which Belinda affiliates sympathetically with a first interjectional phrase (“oh no”, line 3). After the first misfortune listed, Belinda orients with OMG token with a glottalized onset and a lengthened breathy vowel after a short period of hold of the plosive with a long friction release. “God” is produced with what can be perceived as falling intonation, but due to voice quality f0 cannot be tracked. Stefanie assesses the experience explicitly in a negative way followed by an account (lines 8-9). Belinda replies by

grammatically embedding a contribution that displays prior access to Stefanie's experience, a form of affiliation which is confirmed and elaborated on by Stefanie. After a short silence, Belinda aligns with this negative stance with another OMG token (line 13). It also features a glottalized start for “oh”, this time with its own falling movement (spanning 3 ST) and lengthened (0.4 secs). The /g/ sound is realised with a long hold phase (69 ms) but the release is ejective-like [g<sup>h</sup>] with some friction noise before the onset of the vowel. The production of “my god” here is slightly stylised, with a fall-to-mid that could be initially heard as a long sustained level tone (0.5 ST), still produced at a pitch high that is higher than the speaker's estimated baseline.

### Example 3: TBCF6750\_Car Battery

```
01 STF: ↑^SO much has hAppened to my ^CAR, =
02 since its been ^UP here; = [bUt ^THA ]:T.
03 BEL: [^Oh ↑^NO:.]
04 STF: (0.5) °hh i ^ME:AN; (0.5)
05 ^I:m ?ive °hhh had a ^GEAR go out On me, (0.3)
06 BEL: ^Oh ^G(h°)O[: (hh°):D.°hh]
07 STF: [^A::N ]D; (.) ;tAt? thats ^BAD though;=
08 =<<all>because id gOne on> ^TH(h°)IS c(h°)ircular ^ROAD,
09 and then cOuldnt ^GET anywhere,
10 BEL: oh THATs when it ^BURNt;=^YE:AH.
11 STF: ^YEAH; =and it wouldnt do anything.
12 (0.3)
13 BEL: ^?O:H [my ^G(k)O::D]
14 STF: [↑THIS was ] jus:: (0.5) i dont ^KNO:W. (.)
15 ?uh:m (0.5) <<all>i dont know> ^WHAT it wAs,
```

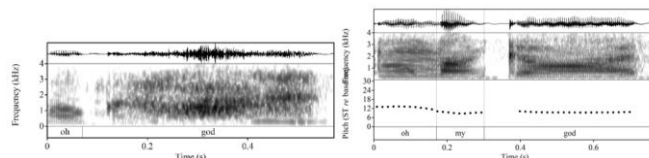


Figure 3: Acoustic visualisation of OMG tokens in Ex. 3

## 5. FINAL REMARKS

This exploratory interactional-phonetic analysis of (Oh) (My) G-word illustrated recurrent features as well as the variation between groups of responsive OMG interjections in a way that treats phonetics and prosody as interactional resources at the service of the current ongoing courses of action. The detailed CA-IL qualitative analysis of interaction allowed for the identification of endogenous evidence for issues of social action and affiliation, and for proof of the context-free but also context-sensitive role of phonetics-prosody in ways that can be later used to quantitatively investigate and predict possible clustering of features around certain points in the interactional structure. It shows how these features come to be in relation to surrounding talk and the interactional needs that arise moment by moment. If OMG tokens had been extracted from their context for a phonetic analysis, a lot of this interactionally-relevant detail that is intrinsic to our understanding of how phonetics-prosody allow us to “get things done” in interaction may have been blurred or lost.

## 6. REFERENCES

- [1] H. Sacks, E. A. Schegloff, and G. Jefferson, "A simplest systematics for the organization of turn-taking for conversation," *Language*, vol. 50, no. 4, pp. 696–735, 1974.
- [2] R. Ogden, "The Phonetics of Talk in Interaction," *The Cambridge Handbook of Phonetics*. pp. 657–681, 2021. doi: [10.1017/9781108644198.027](https://doi.org/10.1017/9781108644198.027).
- [3] E. Couper-Kuhlen, and M. Selting, *Prosody in Conversation: Interactional Studies*. Cambridge University Press, 1996.
- [4] E. Couper-Kuhlen and M. Selting, *Interactional Linguistics: Studying Language in Social Interaction*. Cambridge University Press, 2017.
- [5] E. A. Schegloff, "Interaction: The infrastructure for social institutions, the natural ecological niche for language, and the arena in which culture is enacted," in *Roots of Human Sociality*, N. Enfield and S. Levinson, Eds. 2006, pp. 70–96.
- [6] E. A. Schegloff, "Reflections on Quantification in the Study of Conversation," *Research on Language and Social Interaction*, vol. 26, no. 1, pp. 99–128, 1993, doi: [10.1207/s15327973rlsi2601\\_5](https://doi.org/10.1207/s15327973rlsi2601_5).
- [7] M. Dingemanse, "Interjections (Oxford Handbook of Word Classes)," Jun. 2021. doi:
- [8] F. Ameka, "Interjections: The universal yet neglected part of speech," *J. Pragmat.*, vol. 18, no. 2, pp. 101–118, Sep. 1992, doi: [10.1016/0378-2166\(92\)90048-G](https://doi.org/10.1016/0378-2166(92)90048-G). [10.31234/osf.io/ngcrs](https://doi.org/10.31234/osf.io/ngcrs).
- [9] E. Gehweiler, "11. Interjections and expletives," *Historical pragmatics*, pp. 315–349, 2010,
- [10] S. A. Tagliamonte and B. L. Jankowski, "Golly, gosh, and oh my god! What North American dialects can tell us about swear words," *Am. Speech*, vol. 94, no. 2, pp. 195–222, May 2019, doi: [10.1215/00031283-7251241](https://doi.org/10.1215/00031283-7251241).
- [11] M. Ljung, "The functions of expletive interjections in spoken English," in *Corpus Linguistics*, Brill, 2009, pp. 155–171. doi: [10.1163/9789042025981\\_010](https://doi.org/10.1163/9789042025981_010).
- [12] L. J. Brinton, *Pragmatic Markers in English: Grammaticalization and Discourse Functions*. Walter de Gruyter, 2010.
- [13] S. Wilkinson and C. Kitzinger, "Surprise As an Interactional Achievement: Reaction Tokens in Conversation," *Soc. Psychol. Q.*, vol. 69, no. 2, pp. 150–182, 2006, doi: [10.1177/019027250606900203](https://doi.org/10.1177/019027250606900203).
- [14] E. Reber, *Affectivity in Interaction: Sound objects in English*. John Benjamins Publishing Company, 2012.
- [15] M. Dingemanse, "Between Sound and Speech: Liminal Signs in Interaction," *Research on Language and Social Interaction*, vol. 53, no. 1, pp. 188–196, Jan. 2020, doi: [10.1080/08351813.2020.1712967](https://doi.org/10.1080/08351813.2020.1712967).
- [16] J. Heritage, "Territories of knowledge, territories of experience: empathic moments in interaction," *The morality of knowledge in conversation*, vol. 29, pp. 159–183, 2011, [Online].
- [17] J. Local, "Conversational phonetics: Some aspects of news receipts in everyday talk," *Studies in Interactional Sociolinguistics*, vol. 12, pp. 177–230, 1996,
- [18] E. Couper-Kuhlen, "Exploring Affiliation in the Reception of Conversational Complaint Stories," in *Emotion in interaction*, M. Sorjonen and A. Peräkylä, Eds. Oxford: Oxford University Press, 2012.
- [19] J. Freese and D. W. Maynard, "Prosodic features of bad news and good news in conversation," *Lang. Soc.*, 1998,
- [20] A. Canavan and G. Zipperlen, "CALLFRIEND American English-Non-Southern Dialect," *Linguistic Data Consortium, Philadelphia*, vol. 10, no. 1, 1996.
- [21] Selting, M., Auer, P., Barth-Weingarten, D., Bergmann, J., Bergmann, P., Birkner, K., Couper-Kuhlen, E., Deppermann, A., Gilles, P., Günthner, S., Hartung, M., Kern, F., Mertzluft, C., Meyer, C., Morek, M., Oberzaucher, F., Peters, J., Quasthoff, U., Schütte, W., Stukenbrock, A., Uhmann, S., "A system for transcribing talk-in-interaction: GAT 2," *Gesprächsforschung: Online-Zeitschrift zur verbalen Interaktion*, vol. 12, pp. 1–51, 2011, [Online]. Available: <http://www.gespraechsforschung-online.de/fileadmin/dateien/heft2011/px-gat2-englisch.pdf>
- [22] E. A. Schegloff, *Sequence Organization in Interaction: Volume 1: A Primer in Conversation Analysis*. Cambridge University Press, 2007.
- [23] R. Clift, P. Drew, and J. Local, "Why that, now?: Position and Composition in Interaction (Or: don't leave out the position in composition)," *Language, music and interaction*, pp. 211–232, 2013.
- [24] R. Ogden and M. Cantarutti, "Coding categories relevant to interaction," in *Dimensions of Linguistic Variation*, M. Yaeger-Dror, C. Cieri, and K. Drager, Eds. USA: Oxford University Press, 2021. In press.
- [25] J. Local and G. Walker, "Methodological imperatives for investigating the phonetic organization and phonological structures of spontaneous speech," *Phonetica*, vol. 62, no. 2–4, pp. 120–130, Apr. 2005, doi: [10.1159/000090093](https://doi.org/10.1159/000090093).
- [26] P. Boersma and D. Weenink, *Praat: doing phonetics by computer [Computer program], Version 6.2.23*. Accessed, 2022. [Online]. Available: <http://www.praat.org/>
- [27] M. E. Beckman and G. Ayers, "Guidelines for ToBI labelling," *The OSU Research Foundation*, vol. 3, no. 30, pp. 255–309, 1997.
- [28] B. Szczepek Reed, *Prosodic Orientation in English Conversation*. Springer, 2006.
- [29] R. Ogden, "Phonetics and social action in agreements and disagreements," *J. Pragmat.*, vol. 38, no. 10, pp. 1752–1775, Oct. 2006, doi: [10.1016/j.pragma.2005.04.011](https://doi.org/10.1016/j.pragma.2005.04.011).
- [30] T. Heinemann and V. Traverso, "Complaining in interaction," *J. Pragmat.*, vol. 41, no. 12, pp. 2381–2384, Dec. 2009, doi: [10.1016/j.pragma.2008.10.006](https://doi.org/10.1016/j.pragma.2008.10.006).