

Prosodic variation of interpersonal adverbs

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Introduction

Interpersonal adverbs such as *frankly*, *honestly*, *sadly*, *luckily* etc. are usually analysed as sentential (non-propositional) modifiers, i.e. elements that are external to the syntactic structure of their host, semantically non-truth-conditional, and functioning as comments on the main proposition (e.g. Quirk et al. 1985, Haegeman 1988, Espinal 1991, Dik 1997; for an overview, see Keizer 2018). On the assumption that they have extra-clausal status, interpersonal adverbs have usually been included in the class of parenthetical expressions, not only because of their lack of semantic and syntactic integration, but also because of their distinctive prosodic features. Therefore, interpersonal adverbs are often described as being prosodically isolated from the surrounding parts of their host, forming a separate Intonation Phrase (Nespor & Vogel, 1986:188-189).

How prosody reflects syntax in this matter has been explored in theories of syntax-prosody mapping, e.g. the theory of Prosodic Hierarchy (Nespor & Vogel 1986, Selkirk 1986) and Match Theory (Selkirk 2009, 2011). According to these theories, syntactic constituents usually match corresponding prosodic categories in an analogous hierarchical order. The prediction that sentential adverbs are realised as Intonational Phrases is therefore based on the hypothesis that, since they are extra-sentential insertions and syntactically isolated units, they are also prosodically isolated (for problems with this assumption, see Bolinger 1989, Gussenhoven 2004, Dehé 2014).

The prevalent view of interpersonal adverbs in the literature is that they are syntactically, semantically and prosodically non-integrated in the host utterance. In other words, the general view appears to be that the relation between these features is fairly straightforward, i.e. that the prosodic detachment directly follows from the syntactic non-integration and/or the non-truth-conditionality of the adverbs in question. Finally, most theoretical accounts of parentheticals are principally concerned with their formal features, even though such expressions have a primarily discourse-pragmatic relationship with their host (see e.g. Kaltenböck, Keizer & Lohmann 2016).

Prosodic variation

Empirical research on the prosodic features of parenthetical expressions (particularly the shorter ones like interpersonal adverbs) has shown that prosodic (non-)integration depends on several interacting factors, such as position, prosodic make-up and discourse-pragmatic factors (Peters 2006, Watson & Gibson 2004, Wichmann 2000/2001, Kaltenböck 2008, Dehé 2009, 2014). Wichmann (2000: 96-97), for example, notes that the typical features of parenthesis, such as separation, lowered pitch, and rising terminal ending, may all be suspended due to the communicative function of the constructions in question (e.g. an aside, an appeal, a warning, a comparison, a revision, etc.; see also Bolinger (1989: 185ff)). Dehé (2014) also reports that the lack of prosodic boundary between shorter parentheticals and the following material from its syntactic host can be justified by their discourse-pragmatic functions. For example, Dehé (2009, 2014) and Dehé & Wichmann (2010) argue that the prosodic integration of comment clauses (and therefore the

violation of the rules predicted by the Match theory) is due to their epistemic function – they express the epistemic stance of the speaker towards the validity of the proposition.

Not surprisingly, the prosodic variation of parenthetical expressions poses problems for the theories with strict syntax-prosody mapping (see e.g. the conclusions in Astruc-Aguilera & Nolan 2007; Dehe 2009, 2014; Güneş 2014). At the same time, a systematic account of the prosodic variation incorporating the functional features (as obviously affecting the prosodic realization) is conspicuously absent in previous research. Therefore, despite various analyses of extra-clausal expressions such as interpersonal adverbs, providing individual analyses of their discourse-pragmatic, semantic, syntactic, or prosodic features, so far, no study has related all these features in a unified, theoretically sound treatment, particularly one that includes discourse-pragmatic functions.

FDG analysis in this paper

Recently, Keizer (2018, 2019) has shown that the correlation between the different levels of analysis (syntactic, semantic and prosodic) of the interpersonal adverbs is far from straightforward. Instead, she suggests that the semantic, syntactic and prosodic features of interpersonal adverbs are all triggered by their interpersonal status. Thus, although all interpersonal adverbs are semantically non-integrated (non-truth-conditional), they may be analysed either as modifiers of a certain layer at the Interpersonal Level (e.g. modifiers of the Illocution of a Discourse Act), or as separate Discourse Acts (Hengeveld & Mackenzie 2008). The latter are Subsidiary Discourse Acts which are related to their host (the Nuclear Discourse Act) by means of a rhetorical function (Keizer 2018: 76). Keizer postulates that this distinction is exactly what is reflected in their syntactic status and prosodic realization: when functioning as a modifier, the interpersonal adverb is syntactically and prosodically integrated into its host, and when functioning as a separate Discourse Act, it is syntactically and prosodically non-integrated. The fact that as a separate Discourse Act *frankly* has its own illocutionary force triggers a prosodic realization characterised by prominence, detachment, full intonation contour and other cues that indicate a separate IP domain (Ibid: 76-79; see also Giomi & Keizer forthcoming).

If the prosodically detached interpersonal adverbs can be analysed as separate Discourse Acts with an illocution and specific discourse-pragmatic and rhetorical functions, the next question that needs to be asked is whether these functions are mapped onto some specific prosodic phrasing, i.e. whether the particular functions are reflected in specific intonation contours. Another question to consider is how the particular (extra-clausal) position of these adverbs affects their prosody, and how this interacts with the functional features. And finally, the same questions must be asked for interpersonal adverbs functioning as modifiers within a single Discourse Act: what are their specific discourse-pragmatic functions and how do these relate to their intonational features (e.g. accented/deaccented, integrated in the preceding/following domain, etc.) and the restrictions on their (clausal) placement?

Since, unlike other hierarchies of prosodic constituency, FDG takes the view that prosodic status reflects pragmatic features, it is much better equipped to model these relations/interfaces than the strict syntax-prosody mapping theories. Considering that prosodic realization is manipulable by the speaker, it must be triggered by some intention of the speaker. The way in which syntax comes into play here is that it poses certain constraints on possible prosodic realizations (e.g. the position of an element may influence its prosodic realization). As the syntactic realization is also manipulable and also reflects speaker intention,

these two will often reinforce each other (the syntax-prosody mapping). Sometimes, however, they function separately from each other, in which case prosodic structure need not correspond directly to syntactic structure. Position may be chosen for one reason (e.g. the function of an interpersonal adverb as orientation, aside, correction or an afterthought), while the exact prosodic realization may be triggered by some other interpersonal input (e.g. emphasis). For a comprehensive analysis, all these relations need to be considered. Therefore, this paper aims to offer an empirically-based FDG analysis of these relations by addressing the following questions:

1. What can prosody tell us about the relations between the interpersonal adverbs and their hosts (e.g. rhetorical functions), i.e. are any of such relations systematically reflected in their prosodic realizations at the Phonological Level (e.g. a specific rhetorical function triggering specific intonation contour)?
2. What are the positional constraints (from the ML) on the realisations of those relations (e.g. when P^{Int} prefers a Phonological Phrase boundary)? Where does the position perhaps strengthen the interpersonal input to the PL (e.g. when Orientation is coded as P^{Pre1} + separate Intonation Phrase)?
3. What modifications of/additions to the IL/PL are needed in FDG in order to account for these relations (e.g. additional rhetorical function at the IL, additional operators at the PL)?

Such empirically-based study on how modification at the Interpersonal Level is systematically related to the prosodic variation at the Phonological Level will not only contribute to the development of FDG, but also to general prosodic theory. A unified, theoretically sound account of prosodic variation related to the discourse-pragmatic functions is still absent in the prosodic theory.

Data and methods

The data for this study is drawn from the spoken part of the British Component of the International Corpus of English (ICE-GB version 3.0; cf. Nelson, Wallis & Aarts 2002), which contains approximately 640,000 words from various text types, ranging from direct casual conversations and private telephone calls to scripted monologues and broadcast news.

The instrumental analysis was done in Praat (Boersma & Weenink 2019), including the identification of the tonal contours associated with the target sequence and with the material in its immediate environment (pitch accents and boundary tones in target positions), as well the measuring of the length (in milliseconds) of pause(s) in the vicinity of a target sequence. Domain boundaries are established following the conventional criteria found in the prosodic literature and using the ToBI (Tones and Break Indices) annotation system, i.e. following the now widely accepted framework of Pierrehumbert (1980), further developed in the Autosegmental-Metrical (AM) model (Ladd [1996] 2008). Additionally, the analysis relied on the extensive literature outside the AM model when it comes to the interpretation of pauses, identification of breaks and boundaries, and other cues to a detached intonation domain (e.g. Crystal 1969, Nespor & Vogel 1986, Bolinger 1989, Cruttenden 1997, Gussenhoven 2004, Barth-Weingarten 2016).

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