

SOME PHONETIC NOTES ON EMOTION: LAUGHTER, INTERJECTIONS, AND WEeping

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ABSTRACT

As consultant for the movie *My Fair Lady*, Peter Ladefoged must have found it a daunting task to resuscitate the phonetics of the early 20th century. The task in the present situation is just the opposite. We now have an extensive armory of equipment and methods; but the “primitive“, marginal, and elusive element in the project is the subject matter itself: the phonetics of emotional expressions such as laughter, interjections, and weeping. All three of these areas have been marginalized and neglected in research in the scientific disciplines dealing with the communicative use of human language.

Keywords: emotional expressions, laughter, weeping, interjections

1. INTRODUCTION

Recent publications relevant to the phonetics of laughter include Partington [5], Trouvain [9, 10], and Vettin and Todt [11, 12]. An overview of related research on interjections is available in Kowal and O'Connell [2, 3]. And Hepburn [1] has engaged both in the transcription and analysis of weeping sequences.

It is our simple hypothesis that there are systematic phonetic differences among these emotional expressions, and between them and emotionally colored as well as “normal” non-emotional speech, particularly with respect to the onset level and course of f0.

2. MATERIAL AND METHOD

Our corpus consists of emotional outburst on the part of Mrs. Bennet (played by Alison Steadman) in one of the many motion-picture versions of Jane Austen's *Pride and Prejudice* (1995, BBC mini series). The locations of these utterances were isolated by a preliminary assessment and then

analyzed in the Institute for German Language and Linguistics of the Humboldt University of Berlin.

Our preliminary findings are of Mrs. Bennet's emotions as expressed in the laughter sequences of the actress Alison Steadman. As part of the larger project on the phonetics of emotion (including laughter, weeping, interjections and other emotionally coloured speech), the bouts of laughter were analysed with the help of PRAAT regarding their durational call and segmental structure as well as their intonational realization.

3. RESULTS

The bouts showed an enormous range of variation with respect to all measured parameters, only partly dependent on the emotional meaning of the laughter. Accordingly, on the one hand, we find bouts signalling joyful surprise quite exaltedly with a three-to-five call structure (cf. Table 1) and throughout falling fundamental frequency in the highest register (up to 950 Hz and partly showing laryngeal whistle within their [h] segments).

Table 1: Example of the segmental make up of an exalted 4-call laugh bout (seg: segment; dur: duration in ms; f0: minimal and maximal f0 in Hz; cont: f0-contour – R: rise, F: Fall, s: short).

seg	a:	h	ɔ	h	ə	h	au	h
dur	502	114	73	162	38	121	460	99
f0	833/ 959	906	843/ 883	870	795/ 865	830	683/ 804	
cont	RsF		RF		F		sRF	

At the other extreme, we find interjection like one-to-two call bouts at quite low f0, signalling nervousness (cf. Table 2).

Table 2: Example of the segmental make up of a nervous 3-call laugh bout (abbreviations as above).

seg	ə	h	a	h	ə
dur	78	84	100	89	77
f0			310		287
cont					

A wide range of laryngeal phenomena is observable: initial and final glottal stops, laryngalisations, diplophonia, octave jumps, and laryngeal whistle.

Furthermore, the laughter frequently combines with interjections or (partly ingressively voiced) breathing. Comparing the realisations of emotional sounds of the dubbed German version of the film, sometimes laughter can also be seen replaced by strongly emotionally coloured interjections.

4. DISCUSSION

In general, the laugh bouts analysed can be characterised as quasi ‘nonarticulate’ vocalisations with heightened laryngeal tension. Their call structure could thus be seen as a sequence of ‘pressure syllables’ (“Drucksilben”) in the sense of Sievers [8] in contrast to the articulate syllable structure (“Schallsilben” according to Sievers).

Similar characteristics hold for weeping bouts.

In parallel to – and extending – Lindblom’s H&H theory [4] we would like to propose classifying emotional vocalisations/speech – including laughter and weeping as well as non-‘tame’ interjections – along combined scales of ‘tonus’ as already proposed for interjections (cf. [6]): Normal speech thus ranges from hyperarticulate tonus of extremely careful articulation to relaxed hypo-speech. Hesitation vocalisations (“ehm”) in non-‘tame’ production may even further reduce in articulatory tonus to more vegetative settings: Schwa-articulation followed by lip closing and velum lowering and devoicing.

Concerning laughter, we would state a hypo tonus for the supralaryngeal articulators and an extremely high tonus laryngeally. It seems to us that laughter and weeping as well as differentially ‘tame’ interjections (and other emotional vocalisation) might be classified in a systematic way along these lines.

5. REFERENCES

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