

**ЯЗЫКИ НАРОДОВ ЗАРУБЕЖНЫХ СТРАН (С УКАЗАНИЕМ КОНКРЕТНОГО ЯЗЫКА ИЛИ ГРУППЫ ЯЗЫКОВ) / LANGUAGES OF PEOPLES OF FOREIGN COUNTRIES (INDICATING A SPECIFIC LANGUAGE OR GROUP OF LANGUAGES)**

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**PROSODIC FEATURES OF A CHARISMATIC LECTURER: CASE STUDY**

Research article

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**Abstract**

The current article explores the prosodic features that contribute to the charisma of academic lecturers, focusing on a comparative analysis of two lectures delivered by D. Crystal. First, it reviews the research into what makes a speaker charismatic in political and business domains. Then, through acoustic analysis of fundamental frequency (F0), intensity, and duration, the case study identifies prosodic traits that distinguish charismatic speakers from others. The results highlight the importance of prosodic contrasts in pitch and volume, which contribute to a speaker's perceived charisma. The findings offer insight into the structural characteristics of charismatic speech in academic settings and provide potential applications for improving educational and public speaking practices.

**Keywords:** phonetics, prosody, charisma.

**ПРОСОДИЧЕСКИЕ ЧЕРТЫ В РЕЧИ ЛЕКТОРА: ТЕМАТИЧЕСКОЕ ИССЛЕДОВАНИЕ**

Научная статья

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**Аннотация**

Целью исследования является выявление просодических особенностей харизматической речи в академическом англоязычном дискурсе на примере одного лектора. Для изучения данного вопроса в статье сначала проводится обзор исследований, посвящённых харизме спикеров, а затем приводятся результаты проведенного акустического анализа. Материалом послужили две лекции, прочитанные Д. Кристалом. Результаты подчёркивают важность просодических контрастов в высоте и громкости, которые способствуют восприятию спикера как харизматичного. Полученные данные дают представление о структурных характеристиках харизматичной речи в академической среде и предоставляют потенциальные возможности для улучшения образовательных и публичных выступлений.

**Ключевые слова:** просодия, фонетика, харизма.

**Introduction**

The perception of a lecturer by the audience depends not only on the content of their presentation but also on the characteristics of their vocal delivery. Lecturer charisma is one of the key factors in successful interaction with the audience, influencing students' motivation and the quality of material retention. In recent years, there has been growing interest in studying prosodic characteristics associated with charisma, such as intonation, timbre, volume, and speech rate [7], [9], [10].

A notable study by A. Rosenberg and J. Hirschberg, based on perceptual and acoustic experiments, identified acoustic cues of charisma in political discourse. It was noted that charismatic speakers are distinguished by the following prosodic characteristics: a high fundamental frequency, fast speech rate, high intensity of the speech signal, and a high degree of contrast in loudness levels [8]. In the context of studying charisma, the speech of several successful businessmen, including Steve Jobs and Mark Zuckerberg, was also analyzed. A comparison of their phonetic profiles revealed that charismatic speech in the business sector is characterized by a high fundamental frequency, a wide pitch range, and a high level of prosodic contrast [6], [10].

However, despite the relevance of the topic, the structural aspects of prosodic parameters that create an impression of charisma in academic speech remain underexplored. This article aims to analyze the prosodic features of a charismatic lecturer's speech in order to identify traits that contribute to the perception of charisma. The analysis conducted will provide a deeper understanding of which prosodic characteristics can enhance the perception of charisma, thereby improving educational practices.

**Research methods and principles**

The experimental corpus of the study consists of two lectures by the renowned linguist D. Crystal: the lecture "Is Control of English Shifting Away from British and American Native Speakers?" (2014) and the lecture "Ludic Linguistics: the Missing Link" (2001). D. Crystal is often referred to as a charismatic speaker, both in the press (Independent) and in internet blogs. We rely on this perception of the speaker in question, as such public opinion sources have been noted to be an important indicator of the perception of charisma [5].

The total duration of the analyzed material is 15 minutes; the length of each sample is 8 and 7 minutes, respectively. In each lecture the introductory, main topic, and conclusion sections were analyzed. The primary method of analysis was acoustic analysis of prosodic characteristics using the Praat computer program [4]. The acoustic characteristics analyzed include: F0/ fundamental frequency in Hz (F0 min, F0 max, F0 median, F0 range, F0  $\sigma$  – standard deviation), loudness in dB (max, min, and median intensity), speech rate (ASD in ms – average syllable duration, Kp – pause density), and voice quality in %. (Shimmer, Jitter, harmonic-to-noise ratio (Harmony/Noise)). However, in this article, we focus on the parameters of F0, speech rate, and loudness, as voice quality parameters have previously been proven to be highly constant for a speaker within a single phonostyle [2]. Phonetic profiles of the speaker were compiled, and a comparative analysis of the aforementioned profiles was conducted.

### Main results

The table below presents the prosodic characteristics of a lecturer analyzed across the two lectures, given 13 years apart. It is important to note that the significant time gap suggests the potential influence of age-related factors on the speaker's vocal behavior, which we took into consideration during the comparative analysis. The conducted acoustic analysis allowed us to pinpoint prosodic traits that set the speaker apart from others, contributing to their perceived charisma and effectiveness as a public speaker. All the data retrieved is given in Table 1.

Table 1 - Prosodic characteristics of the speaker across the two lectures

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	F0, Hz		intensity		
	F0 min, Hz	F0 max, Hz	Intensity min, dB	Intensity max, dB	Intensity Median, dB
Lecture 1	73	499	42	89	69
Lecture 2	71	495	45	83	69
	F0 Median, Hz	F0 $\sigma$ , Hz	Speech Rate		
Lecture 1	104	72	ASD, ms		Kp
Lecture 2	132	70			
	Pitch range, semitone		197	1.08	
Lecture 1	33				
Lecture 2	32.5		228	1.23	

Note: F0 min, F0 max, F0 median, F0  $\sigma$  (Hz), pitch range (semitone), Intensity min, Intensity max, Intensity median (dB), ASD (ms), Kp

### Discussion

We begin the analysis of the phonetic profiles with the most indicative prosodic parameter – median F0. First, let us note that the median F0 of an adult male is known to vary between 75 and 200 Hz while the median F0 of an adult female reportedly varies between 130-300 Hz. Across the two lectures, D. Crystal showed the difference in the median F0 values of 28 Hz (132 Hz and 104 Hz), which may be due to the influence of the age factor. However, despite this decrease in pitch, the median F0 ranging from 104 Hz to 132 Hz, is indicative of a low male voice. The finding is consistent with the previous studies showing that the use of low registers is a key feature of academic speech [1].

In light of previous research on charisma and the reports on the existing link between charismatic speakers and greater prosodic variation in their speech, we are particularly interested in the signs of prosodic contrast in D. Crystal speech. In both lectures, D. Crystal demonstrates a consistently wide range for a male voice (33 semitones, with the average value being 22 semitones [3]). At the same time, we also note a high level of standard deviation (72 Hz and 70 Hz), which indicates the presence of prosodic contrasts and frequent transitions between high and low tones. The aforementioned contrasts in the pitch contour have been observed in Fig. 1.

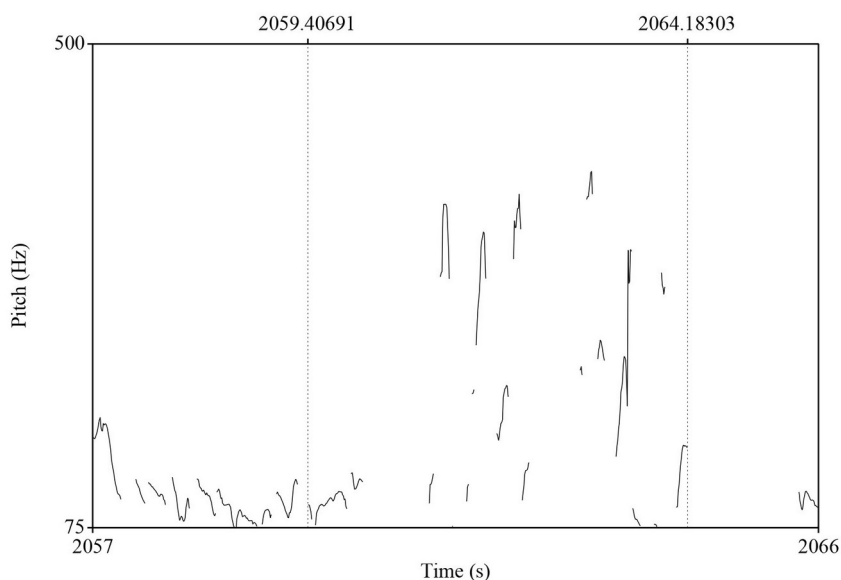


Figure 1 - The pitch contour of the speaker's voice in Lecture 1  
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Prosodic contrast is also manifested in the intensity of the sound signal. The sound signal in all samples can be described as having a median loudness level, but the interval between minimum and maximum values indicates high variability in volume levels, which is also a characteristic of charisma. The speech rate of the analyzed lecturer is average. The ASD (197 ms and 228 ms) corresponds to average statistical data, and the high pause density contributes to better understanding of the material.

### Conclusion

The results of the theoretical and empirical research presented in the article indicate common prosodic features associated with speaker charisma across different types of professional speech. In political discourse, business leader speeches, and lecturer speeches, the following charismatic traits are highlighted: high F0 value dispersion and a high degree of contrast in volume levels. Thus, prosodic contrast can be considered a universal feature of charisma. The speech tempo is average in business leaders' speech and high in political discourse. The F0 is average in lecturers' speech and high in the speech of business leaders and politicians.

Future research may focus on conducting a perceptual analysis, identifying non-charismatic lecturers, and comparing their speech behavior with that of charismatic lecturers. Expanding the experimental corpus and comparing lecturers from different gender and age groups will also allow for analyzing the values of voice quality parameters, which remain as constant as possible for a single individual within a single phonostyle. Examining these aspects will allow for a deeper understanding of the mechanisms of interaction between a lecturer and the audience, as well as the prospects for optimizing the educational process.

A more detailed study of charisma is highly relevant in the era of soft skills and is essential for lecturers who want to improve their interaction with the audience, as well as for those teaching foreign languages to help learners confidently structure their public speaking.

### Конфликт интересов

Не указан.

### Рецензия

Все статьи проходят рецензирование. Но рецензент или автор статьи предпочли не публиковать рецензию к этой статье в открытом доступе. Рецензия может быть предоставлена компетентным органам по запросу.

### Conflict of Interest

None declared.

### Review

All articles are peer-reviewed. But the reviewer or the author of the article chose not to publish a review of this article in the public domain. The review can be provided to the competent authorities upon request.

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