

The relationship between silent pause and breathtaking in spontaneous speech

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Our speech is occasionally interrupted by pauses. They are an essential part of human speech. Until now it is not clarified what can be actually considered as pause, how differently pauses can appear in speech, what are their acceptable minimum and maximum durations, and what functions they may have in speech.

Until the first half of the 20th century researchers examined pauses mainly from rhetorical aspects, they analysed the relationship between punctuation of written texts and their spoken realisations (Mátray 1861; Hevesi 1908; Simonyi 1903; Lindroth 1933). In 1877, Sweet was the first scientist who mentioned pauses as parts of the language system. He connected pauses of speech with breathing, and called the section of speech uttered with one act of breathing out as “breath group”. Following Sweet’s idea, various researchers discussed the problem of pauses of speech, such as Hungarian Balassa (1886), German Viëtor (1894), and Danish Jespersen (1904). Previous studies connected pauses of speech with either breath-taking, or punctuation (Weiske 1838; Bieling 1880).

From the second half of the 20th century empirical researches showed that silent pause is the most common phenomenon in the spontaneous speech, and carries many different functions in speech (Boomer 1965; Goldman-Eisler 1958; Hargreaves–Starkweather 1959; Levin et al. 1967; Tannenbaum et al. 1967; Verzeano–Finesinger 1949; Misono–Kiritani 1990; Gósy 2000, 2003; Menyhárt 2003; Markó 2005; Bóna 2007, 2013; Neuberger 2014). Speakers need pauses to breath, plan what they are going to say, or negotiate turn-taking. Esposito et al. (2007) conclude that pauses in speech are typically multi-determined phenomena; they have socio-psychological, communicative, linguistic and cognitive reasons. It is known from previous research that silent pauses caused by speech planning difficulties differ from those occurring at syntactic boundaries (Boomer 1965; Lounsbury 1965; Szende 1976). A recent study confirmed statistically significant difference between syntactical silent pauses and editing phase silent pauses (Gyarmathy 2017).

There are still many controversies about the relationship between silent pause and breath-taking. The aim of the present study is to investigate whether breath-taking is subordinated to thinking and is not performed by biological functions in spontaneous speech. Our study focuses on the analysis of the temporal structure of silent pauses and breaths in

Hungarian spontaneous speech. We hypothesized that there would be proportional and/or durational differences among pause categories depending on breath-taking.

Our research is based on narratives of the BEA Hungarian spontaneous speech database (Gósy 2012). We used the recordings of 10 adult subjects (5 males and 5 females, their mean age was 27.4 years), and analysed all occurrences of their silent pauses. The spontaneous speech material we analysed was 71 minutes long. Each occurrence of silent pauses was annotated by Praat, version 5.4.21 (Boersma & Weenink 2013). We defined their duration manually. For statistical analysis, General Linear Mixed Model (GLMM) was used (SPSS 20.0).

Results provide detailed information about the relationship between silent pauses and breath-taking. In addition, results can be used in various areas of speech technology, or speech therapy.

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