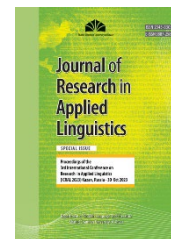




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Examining the Prosody Features of Simultaneous Interpreters' English Speech in the Sample of Political Discourse

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Abstract

In both theory and practice, prosodic features are crucial to simultaneous interpretation. Prosody serves a semantic purpose in speech because of its phonetic methods; this includes intonation and its variations, loudness, and pausation. The study's objective is to investigate the prosodic characteristics of simultaneous interpreters' speech using British English political discourse as an example. A detailed examination of the prosodic characteristics of the English language is conducted, along with a comparative study of the prosodic parameters of simultaneous interpreters and speakers during public speaking. The study's data, which revealed the phonetic and prosodic characteristics of the speech in the political discourse on the example public speaking, were displayed on graphs and indicated in tables. Empirical data supports the notion that overlooking prosodic details can result in mistakes in intonational design, which impairs perception. Furthermore, improper prosodic speech formation during simultaneous translation could be a sign of inadequate training for the simultaneous interpreter. The study's findings provide a thorough grasp of prosodic categories in simultaneous interpretation.

Keywords: Linguistics; Communication; Media; English Speech.

1. Introduction

An increasing amount of foreign language proficiency is claimed as a result of increased English usage abroad. Professional qualities of a university graduate include the capacity to adjust to changing information realities in the workplace, where speaking foreign languages becomes extremely important when not only language proficiency is required but also knowledge of the social and cultural norms of the nation (Schweitzer, 1988). A language's lexical system is a special area of study in linguistics that allows us to comprehend not only the state of society but also the consciousness and philosophy of its people. Accordingly, translation is regarded as one of the most important and fundamental human endeavors that promotes understanding and international information sharing amongst individuals in the industrial, cultural, and scientific domains. Sabirova et al. (2021) have addressed the issues surrounding translation as a distinct type of activity in their foundational works. Translation is defined as "a process of transformation of a speech product in one language into a speech product in another language, the invariable meaning being preserved."

Our research aims to investigate the prosodic characteristics of simultaneous interpreters' speech using British English political discourse as an example. Using a computer-aided method and the software PRAAT (a phonetic system developed by Lenglet, 2020) at the Phonetic Sciences department at the University of Amsterdam, the research aims to identify the specifics of the prosodic features with the help of an audit analysis. Natural language processing and computer-assisted language processing are two areas in which computer linguistics and applied methods of language description and processing overlap.

2. Literature Review

"Translation can be defined as a unidirectional and two-phase process of interlingual and intercultural communication," states Schweitzer. "The secondary text replaces the primary text in a different language and cultural context, and is created on the basis of the primary text that has undergone purposeful analysis." As one facet of a

translator's communicative competence, analytical ability is predicated on perception as a means of penetrating the cognitive world of communication participants and hermeneutic observation linked to a comprehensive comprehension of the communicant's language identities and the temporal states that are dictated by the interaction environment of each communicative act. Shiryayev describes simultaneous interpreting as "a deterministic process consisting of three successive phases: implementation and control, and orientation and search for solutions." Notwithstanding the sequential steps, it is important to consider the unpredictable nature of simultaneous interpretation, as it is subject to both subjective and objective standards.

The researchers' proceedings touched on the phenomenon of prosodic features in simultaneous interpreting (Schweitzer, 1988). The first experimental investigation on the perception of interpreters' intonation was conducted by Shiryayev (1979). She believed that the unusual intonation of interpreters might affect how people perceive speech. Four categories from Halliday's (1967) grammatical approach to the study of intonation served as the foundation for Shlesinger's (1994) analysis: Tonality: pitch contour-delimited information units and pauses; length and speed; tonicity, or the place of the tonic syllable in the tone group; tone, or the way in which a tone rises or falls to convey (un)certainty.

Ahrens (2005) conducted an instrumental and subjective prosodic analysis of her corpus. Using a corpus from the European Parliament, Waasaf & Lourdes (2007) examined the connection between phonological structure and topic transition. A larger-scale investigation into the nature and perceptual effects of simultaneously interpreting prosody was proposed by Lenglet (2020). In an effort to characterize the distinct speaking style of simultaneous conference interpreting, Christodoulides (2013) investigated the prosodic aspects of the practice. Even though there are many publications on the prosodic traits and nonverbal components of speech, the body of empirical research in this area is rarely updated, despite significant advancements in the fields of technical analysis tools and perception. This is because there isn't a common vocabulary for characterizing the prosodic phenomenon when working with the pertinent literature. Nevertheless, it is a fact that many studies lack a visual analysis of the study's practical aspect, which highlights the necessity for the problem to be developed. It is pertinent to note that, at the moment, no significant international gathering—including summits and meetings—can be considered complete without the simultaneous interpretation of speakers. In order for negotiations to be successful at meetings, whether they are small or large, translators are frequently crucial. As a result, research must be done to determine the factors that influence the caliber of interpretation and, subsequently, the result of negotiations.

3. Methodology

The research methods consist of conducting an experiment with the help of an applied computer program, studying literature and Internet sources and their theoretical overview, and analyzing and synthesizing the data that was gathered. The study's actual sources include speeches made by British Prime Minister Theresa May at the 71st UN General Assembly session, V. Putin at the 70th UN General Assembly anniversary session, and simultaneous interpretation in English. The analysis's primary focus is on intonation's constituent parts, including loudness, tones, and pauses. For electroacoustic analysis, the PRAAT sound processing and linguistic analysis program was utilized. An electroacoustic analysis was conducted to compare the original speech and the interpretation. The parameters that were considered were loudness in Db and Fundamental Frequency (F0) in Hz.

4. Results

Since simultaneous interpreting entails both interpretation and receiving information in a different language at the same time, its complexity is indisputable. However, one must consult the classification in order to comprehend the meaning of the term "simultaneous interpretation." Three different kinds of simultaneous interpretation are possible: Simultaneous interpretation "by ear": in this most common and challenging scenario, the simultaneous interpreter listens to the speaker's continuous speech through headphones and translates in blocks as new information becomes available; In simultaneous "sight translation," the speaker's written text is sent to the simultaneous interpreter either in advance or at a predetermined time, and the interpreter bases their translation on the written text; Reading previously translated text aloud while matching the prepared translation to the speaker's speech and making necessary corrections to the original text when the speaker deviates from the prepared speech.

Furthermore, the process of interpretation is influenced by compression and the higher speech rate of the interpreter. According to the interpreter, compression is either cutting out some pointless passages or using a more

condensed version of the speaker's words. As a result, subspecies of compression include semantic, syllabic, syntactic, and lexical compression. Choosing a truncated word or phrase allows for syllabic compression. By dividing a sentence into multiple parts or substituting a simpler sentence, syntactic compression breaks down a complex sentence into simpler ones. Reducing words results in lexical compression, but the idea stays the same. Reduced number of duplicate elements is the result of semantic compression. It is important to note that the simultaneous interpreter segments the information received in order to aid with translation. As a result, the speaker's speech can be segmented into specific syntagms, or minimal units of speech, identified by their rhythm, intonation, and pause. Due to a word's polysemy, the interpreter may occasionally combine syntagms in examples of distinct languages to make the word's contextual meaning clearer.

The syntagm is a more complex phonetic and semantic unity than the rhythmic group. One, two, or more rhythmic groups could be present. A noticeable shift in tone at the end of the syntagm, an increase in the rhythmic stress of the final rhythmic group, an extension of the stressed long vowel in the final group, and a brief pause or holding of breath are among the phonetic methods of creating the syntagm. There are indications that the syntagm is the oral translation unit that is most frequently selected. When it comes to content, the syntagm conveys a particular idea that the speaker is forming at the time of speech production. As a result, the division of speech into syntagms is arbitrary and depends on the utterance's length, task, and part-to-whole ratio. The speaker "quantizes" the information conveyed, emphasizes the key components of the phrase, and establishes the overall rhythmic pattern of the utterance with the aid of his syntagmatic articulation.

In contemporary phonetics, respiratory groups are defined as portions of the speech chain that are followed by a full breath, or a noticeable pause. One or more sentences are included in respiratory groupings. We know from experience in practice that if the translator moves away from the speaker by multiple sentences, it indicates an excessive amount of work. As a result, selecting respiratory groups for orientation units is only feasible in certain circumstances. Skilled simultaneous interpreters typically maintain a seemingly ideal rate of speech in the target language, which falls within the lower bound of the target language's average rate of public speech. The translator's speech rate somewhat increases along with the speaker's, but not significantly. Studies reveal that researchers frequently cite popular computer technologies as a means of supporting the conclusions and demonstrating the reliability of the experimental results. The following indicators were found through acoustic analysis:

Table 1. *Prosodic Characteristics of Th. May's speech*

Min. F0	76, 580 Hz
Max. F0	331, 059 Hz
F0	184, 990 Hz
Min. loudness	38, 57 Db
Average loudness	63, 85 Db
Max. loudness	73.23 Db

By using a spectrogram as an example, we can determine that the speaker's speech is smooth and that each syntagm has a descending scale with a smooth or descending completion because the speaker's speech is only composed of affirmative sentences. Particularly in formal speeches—where floating dynamics are not allowed—this scale is typical. The speech rate of the speaker is 133 words per minute, which is less than the 140–150 word average for English speech. Each intonation group is restricted to brief pauses and consists of an average of 4–9 words. English syntagms are frequently lengthy because prepositions are used to organize and manage words. 30.7% of the pauses are severe (see Table 2):

Table 2. *Duration of Pauses*

Pauses	Duration of pauses (in msec)
Very short	120
Short	216
Long	1416
Very long	1512
Average	816

The speaker's F0 (184, 990 Hz) can be characterized as neutral by the graphics since the indicator does not go above the F0's (106-202 Hz) female voice norm. Th. May's speech can be characterized as average in loudness because

it stays within the 50–70 Db range, which is the average intensity of English speech. Analysis of this English speech's simultaneous interpretation.

Table 3. *Characteristics of Th. May's Simultaneous Interpreter's Intonation*

Min. F0	80, 653 Hz
Max. F0	385, 250 Hz
F0	204, 261 Hz
Min. loudness	24, 972 Db
Average loudness	55.956 Db
Max. loudness	66, 110 Db

There are 43.7% pauses, which is 13% more than the speech indicator for the speaker. The average value (1020 msec) is 204 msec, or 25%, faster than the speaker's average speech rate. The higher rate of simultaneous interpretation is caused by the interpreter's need for time to comprehend the speaker's next words and come up with an interpretation. It is important to note that the interpreter rarely pauses for longer than a syntagm in order to stay up with the speaker. The speaker's average speech rate provides such a small shift and low compression level.

Table 4. *Duration of Pauses in Interpretation*

Pauses	Duration of pauses (in msec)
Very short	120
Short	160
Long	1808
Very long	2016
Average	1020

As a result, the simultaneous interpreter completed the assignment: they were able to interpret each subsequent segment nearly verbatim due to the speaker's moderate pauses and fast speech pace, which prevented the need for compression. Every combination was understood appropriately. The interpreter doesn't include a phrase's intonation. It is vital to perform research on the interpretation to English for comparative analysis in order to compare and validate that the simultaneous interpreter handled the task. for the purposes of this analysis.

Acoustic analysis of the speaker's speech revealed the following indicators:

Table 5. *Characteristics of V.V. Putin's Speech*

Min. F0	66, 933 Hz
Max. F0	489, 372 Hz
F0	147, 015 Hz
Min. loudness	45, 10 Db
Average loudness	66, 61 Db
Max. loudness	76.68 Db

The following intonation traits of V. V. Putin's simultaneous interpreter were identified through analysis of the simultaneous interpretation of this speech.

Table 6. *Intonation Characteristics of V. V. Putin's Simultaneous Interpreter*

Min. F0	75, 996 Hz
Max. F0	359, 506 Hz
F0	209, 771 Hz
Min. loudness	36, 201 Db
Average loudness	69, 288 Db
Max. loudness	82, 377 Db

We were able to determine the following after analyzing the material we had obtained: there is a slight difference between the indicators of the minimum and maximum F0 of Th. May's speech and the interpreter of V. V. Putin. This demonstrates the high level of professionalism displayed by the interpreter, who made an effort to adhere to the prosodic characteristics of the British English language. Putin's speech and Th. May's interpreter's indicators do not line up. The gender gap or errors in the interpreter's speech pattern, specifically its monotony, could be the cause of the discrepancy. Because the speakers' speech has an average pace for perception and simultaneous interpretation, interpreters do not use

compression. Additionally, they are able to avoid compression because of text segmentation, which is accomplished by the speakers pausing briefly during their speeches.

5. Discussion

According to Watson (2012), a researcher at the University of Illinois in Beckman's Cognitive Science group, "we don't know much about the structure of prosody, the cognitive processes that are formed partly by prosody, or how it can be interpreted." It is essential to comprehend prosodics in order to comprehend a language system's structure. Therefore, in order to define prosody more accurately, it is necessary to examine the nomenclature used to describe prosodic features. In order to organize and segment the speech flow, prosody is a complex of phonetic suprasegmental features that are used in speech at all levels of speech segments. According to Crystal (2010), the ideas of prosodics and paralinguistics can be linked to non-linguistic phenomena, such as physiological vocal reflexes like yawning and sneezing, as well as voice quality, which has unique qualities but is an uncontrollable, constant process at the physiological level. Tone, dynamics, and length are just a few of the phenomena that make up prosodics. The relationship between these phenomena and the acoustic parameters that underpin them is noteworthy. Pitch value and the tone adjustment process are examples of phenomena related to tone. Changes in intensity are the foundation of dynamic phenomena. The rhythm and volume are the corresponding audio characteristics. Duration has an impact on elements like speech tempo, length, and pauses. When examining prosody's functional significance, it is important to highlight its two primary functions: Organizing the phonetic continuum and emphasizing the main ideas in the content.

These two purposes help the listener absorb and comprehend what is being said more easily. On the one hand, prosodic elements in speech reproduction can "reinforce" or strengthen verbal communication. However, these components can make up for the absence of some features or components of communication. The sonority and tone parameters make up for other prosodic parameters and take over their roles, which are carried out by voice and pitch changes, when one prosodic parameter is absent or cannot be considered, as in the case of whispering. The lowest phonetically formed semantic value is the rhythmic group. She refers to a thing, occurrence, deed, or each of their distinct attributes. A rhythmic group, according to the ear, is a series of words that have a long stressed vowel at the end or are stressed on the final syllable with a little melody change. Many rules of grammar dictate what the rhythmic group must consist of in order to function. All auxiliary words plus a significant word, frozen expressions, a defined word plus a defining word preceding it, and a defined word plus a defining monosyllabic word following it comprise one rhythmic group.

6. Conclusion

By using public speeches as an example, the study's data thus highlights the prosodic element of British English speech in political discourse. Evidence from research indicates that ignoring prosodic parameters can result in errors in intonation design, which impairs perception. Furthermore, if speech is not properly formatted prosodically during simultaneous interpretation, it can be a sign that the interpreter is underqualified. By using public speech as an example, we were able to demonstrate the importance of adhering to prosodic norms, as poor translation quality is indicated by a target language translation with an incorrect prosodic design. It was discovered that the speech in British English is melodic and rhythmic, and that the contrast between stressed and unstressed syllables acts as a guide for the simultaneous interpreter in identifying important details and focusing on information that cannot be overlooked while interpreting. Additionally, during interpretation, an understanding of the prosodic design will enable the interpreter to anticipate the speaker's intonation and speech completion.

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