

Activity 1

Title: *Analysis of Self-Introduction in Two Accents using PRAAT*

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Course: Speech Recognition

1. Introduction

The purpose of this activity is to analyze the variations in speech patterns, intonation, and prosody when delivering the same self-introduction in two different languages and accents. By recording and comparing the speech using PRAAT software, we can observe how pronunciation, pitch, rhythm, and stress patterns change between languages.

For this task, the self-introduction was delivered in:

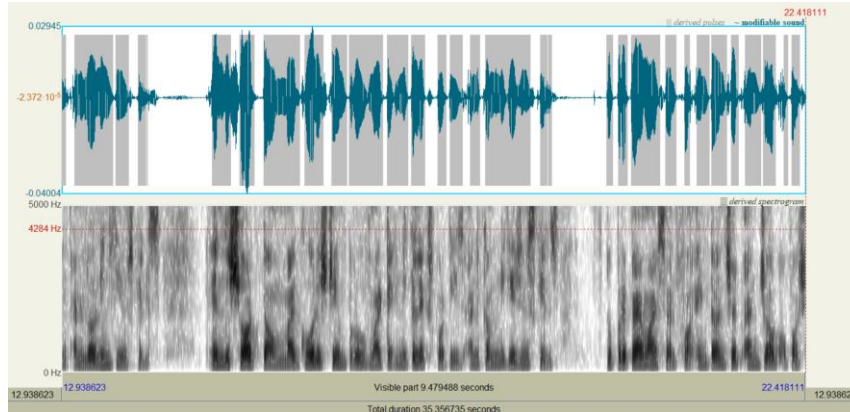
- **English** — using a neutral Indian English accent.
- **Hindi (written in English letters)** — using a Hindi-accented English/Hinglish accent.

This comparison helps in understanding the role of prosody and accent in speech clarity, listener perception, and communication effectiveness.

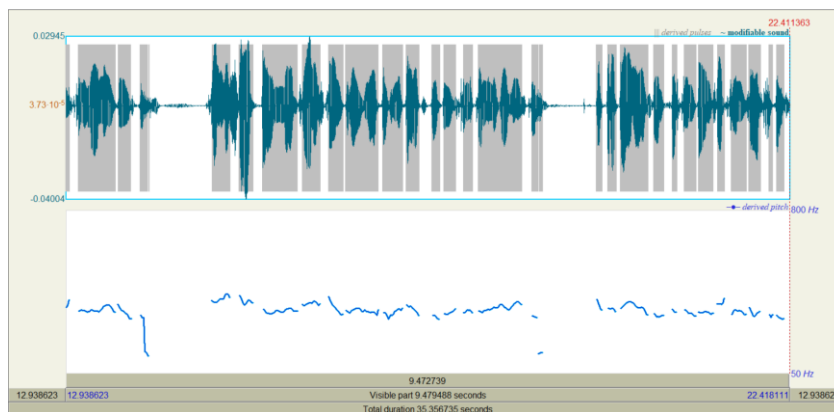
2. PRAAT Analysis

- English Accent:

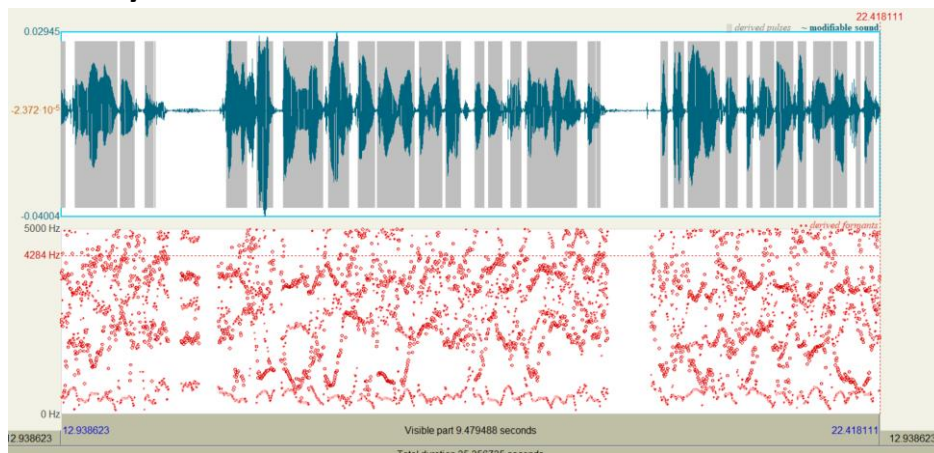
Spectrogram:



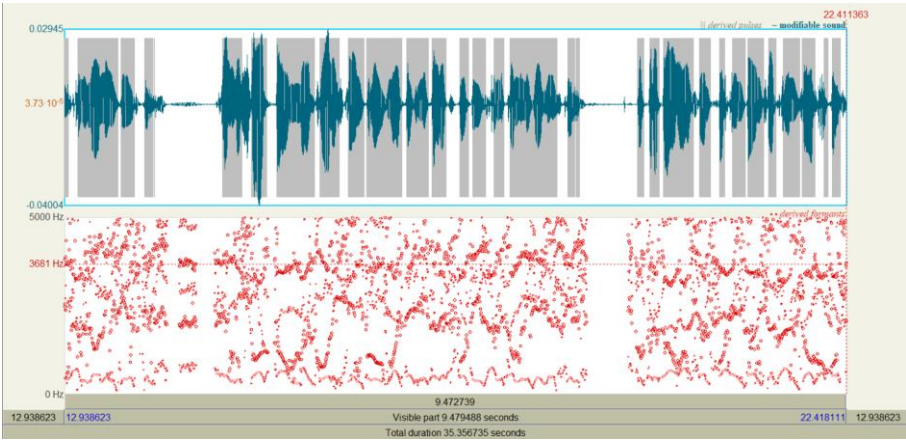
Pitch:



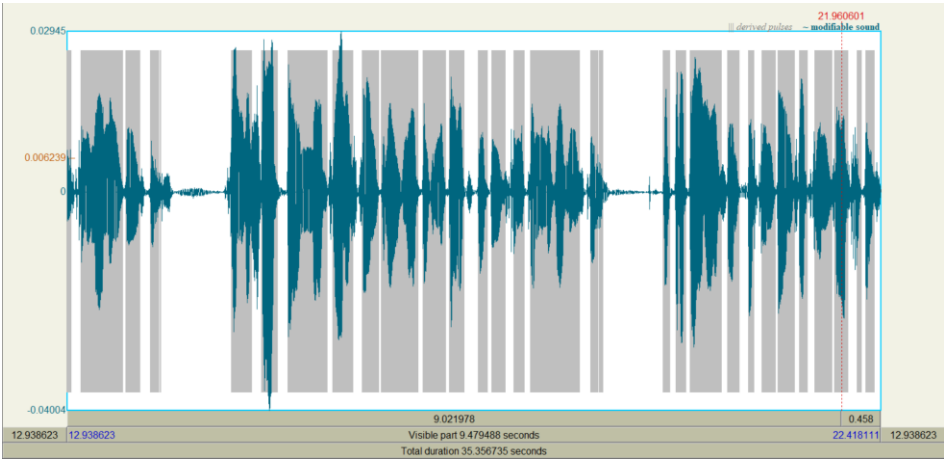
Intensity:



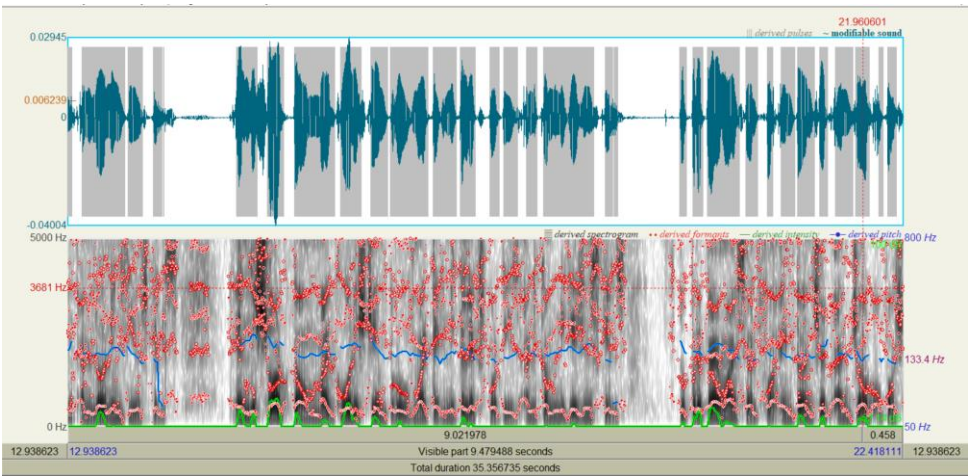
Formats:



Pulses:

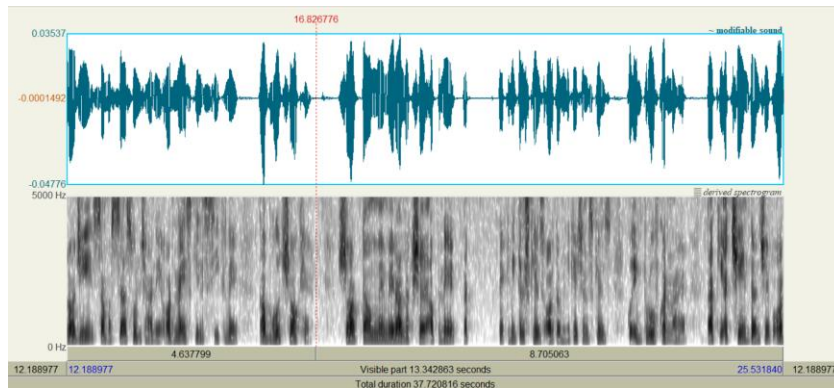


Full Analysis:

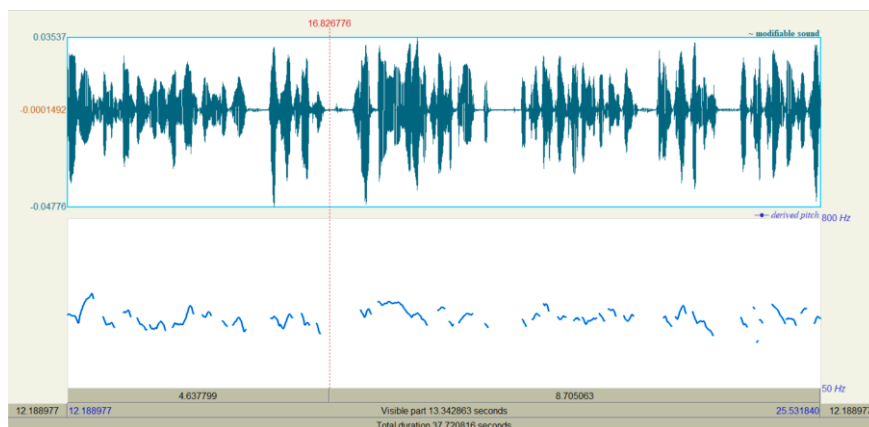


- **Hindi Accent:**

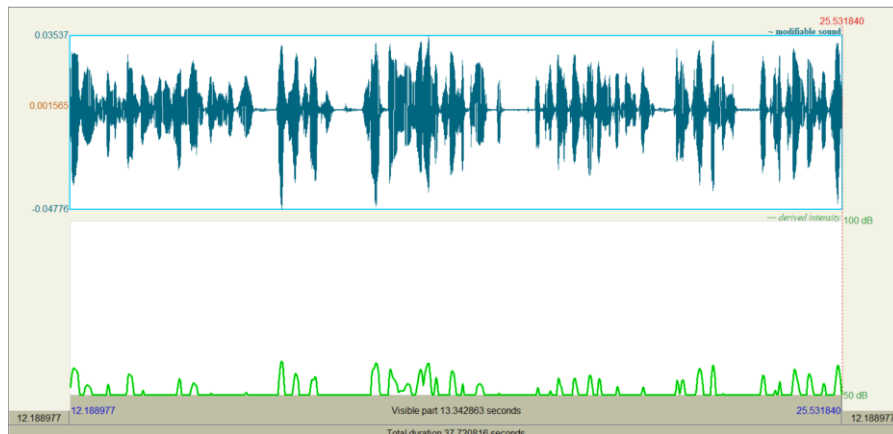
Spectrogram:



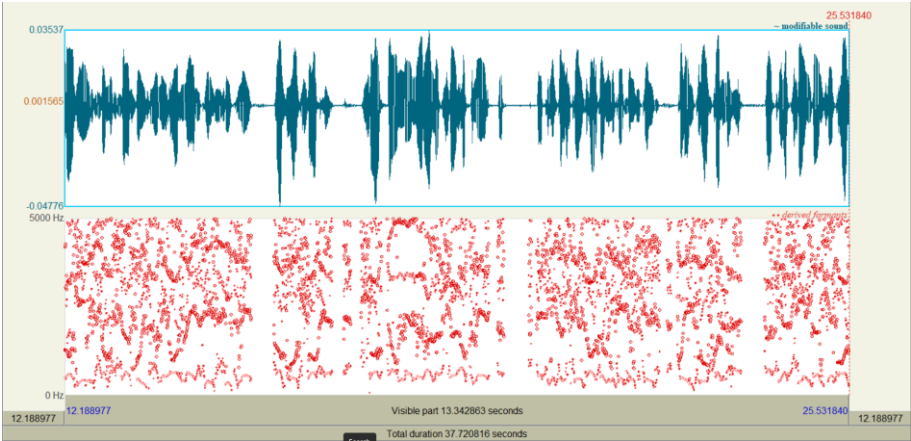
Pitch:



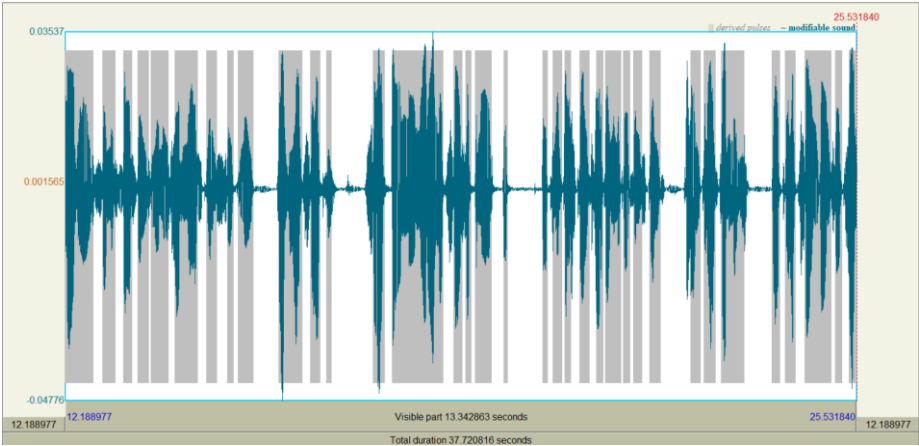
Intensity:



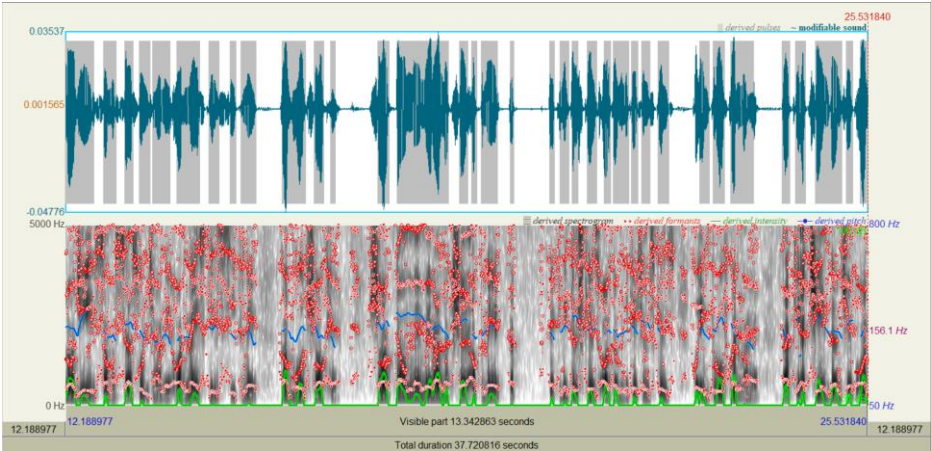
Formats:



Pulses:



Full Analysis:



3. Observations

- **Pitch, Pauses, and Intonation Patterns:**

The English accent recording displayed a smoother pitch contour with more variation in intonation, creating a natural rise and fall in speech. Pauses were more strategically placed, enhancing clarity. In contrast, the Hindi-accented English recording showed a slightly flatter pitch contour, with fewer changes in intonation and slightly longer pauses between phrases.

- **Vowel Lengths and Stress Patterns:**

In the English accent, vowel lengths varied based on word stress, and stressed syllables were more pronounced, contributing to rhythm and emphasis. In the Hindi-accented version, vowels tended to have more uniform length, and stress was less varied, making the speech sound more syllable-timed than stress-timed.

- **Example:**

The English accent had smoother intonation and greater stress variation, while the Hindi accent exhibited a flatter pitch profile and different stress placement, often stressing each syllable more evenly.

4. Importance of Prosody

Prosody plays a vital role in conveying meaning, maintaining clarity, and engaging listeners. It influences how the listener perceives the speaker's emotions, intentions, and emphasis.

- **In English:**

Intonation patterns often signal emphasis, sentence type (e.g., question vs. statement), and emotional tone. Prosody helps differentiate between similar-sounding words and phrases, improving comprehension.

- **In Hindi:**

Rhythm and syllable timing are more prominent. Hindi tends to be syllable-timed, where each syllable is given nearly equal duration, leading to a flatter intonation pattern compared to English. Prosody still impacts meaning but in a different rhythmic structure.

5. Conclusion

The analysis shows that while both recordings conveyed the same message, the difference in accent and language significantly affected pitch variation, vowel length, stress patterns, and rhythm. The English accent exhibited more dynamic pitch movement and stress-based rhythm, whereas the Hindi-accented version leaned toward a syllable-timed delivery with less pitch variation.

Personal Reflection:

Recording and analyzing my own voice in two accents allowed me to understand how subtle changes in prosody can alter speech perception. This exercise has made me more aware of the importance of intonation, rhythm, and stress in effective communication, and how adjusting these elements can help in speaking more clearly and engagingly in different contexts.