

# Beware of a specific pronunciation in voice comparison: a stuttering case in French

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In this case, we have 25 question samples in which the speaker stutters noticeably in each sample. In the comparison samples, hundreds among two telephone lines, there is no obvious trace of stuttering. We consider stuttering to be a discriminant voice comparison parameter with “high between-speaker variability characteristics” (Nolan, 1983:11). Since all the other comparison parameters pointed towards a similar voice, we wanted to understand what could trigger, increase or diminish stuttering (Monfrais-Pfauwadel, 2014, Shirkey, 1987, Bloodstein, 1988) and see if we could find trace of it (Pallaud, 2007).

## A closer look at the context: what triggers or diminishes the stuttering

**Table 1.** Comparison of the context in each sample

<i>Question samples</i>	<i>Comparison samples</i>
A lot of stuttering.	Very little stuttering.
Only one speaker.	Various speakers.
Dealing with quantity of merchandises, contacts and next meetings.	Strangers: salesman selling to individuals. Family: family life (wife, kids, grandparents).
Animated conversations.	Notary / banker: buying negotiations. Calm to animated conversations.
Samples taken in 2011.	Samples taken between 2013 and 2014.
Calls made in the evenings.	Calls made during daytime.
Interlocutor speaks very fast.	Interlocutors speak slower than our speaker.
Our speaker seems stressed and angry and tends to speak faster than his usual speech rate.	Our speaker is either annoyed, or trying to convince that he needs money now, or explaining his routine product.
Fight for who's leading the conversation.	Our speaker leads all the conversations.

Within the different contexts described in table 1, we tried to select situations that seemed comparable to the one in the question samples, such as talking about selling merchandises or getting money. We considered that the following factors could impact stuttering:

- The two years and a half time laps between the different sets of samples could explain the “loss of stuttering”.
- A job where you talk a lot on the telephone as a salesman decreases the stuttering.
- Leading or following the conversation.
- The speaker adapts his articulation rate to his interlocutor (Street & Brady, 1982) and if he speaks faster than his usual tempo, it could increase the stuttering. Indeed, in the comparison samples the speaker had an articulation rate of 7.74 syllables per second and his interlocutors were speaking slower around 6.72 syll/sec. Whereas the interlocutor in the question samples spoke faster than our speaker with 8.08 syll/sec for 7.97 syll/sec.

## Stuttering signs

Looking more closely at the comparison samples, we still found some pronunciations a non-stutterer would not produce (Zellner, 1992), such as:

- Lengthening of a consonant in the middle of the first syllable of a word and an accentuation for finishing the syllable, such as “pr-**ro**visoire” or “s-**ig**ner”.
- Repeating syllables or group of words up to three times like “préfecture en en **en** préfecture”

## Beware

A specific pronunciation needs to be understood and completed with other voice comparison parameters. If all converge to a positive result, there should be some trace left. Nevertheless, by its unpredictable nature, stuttering should not be considered a major voice comparison parameter.

## References

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