Individual variation in filled pauses in the native and second language

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Hesitation behavior is a relatively unconscious part of language [1], which shows much between-speaker variation [2–4]. Furthermore, individuals are rather consistent in how they hesitate in their native language [2, 5]. This study investigates between-speaker variation in hesitation behavior in the first (L1) and second (L2) language, and within-speaker consistency of filled pauses across languages.

In Dutch and English, two fillers are mainly used to express hesitation: *uh* and *um*. However, their exact phonetic realization and the ratio between the two are different for these languages [6, 7]. Flege's Speech Learning Model [8] says that L2 learners only adapt their pronunciation when they perceive a difference between the L1 and L2. Therefore, we expect that Dutch speakers of English more clearly adapt their *uh:um* proportions than their vowel formants of the *uh/um* vowels. For other pronunciation features of *uh* and *um*, e.g. duration and fundamental frequency (F0), we expect speakers to be consistent across languages [9, 2].

We investigated the speech of 40 Dutch students of University College Utrecht (20 females; 20 males). The speakers were selected from the Longitudinal Corpus of University College English Accents (LUCEA), collected by Orr and Quené [10]. Students from University Colleges have advanced L2 proficiency.

Preliminary results show substantial between-speaker variation in the filled pauses *uh* and *um* in both Dutch and English. The within-speaker consistency was low where expected: when speaking English, students used the *um* variant more often than in Dutch. Also, the vowel quality of their filled pauses was pronounced more open and more backwards in English than in Dutch. According to the SLM, this suggests that differences in vowel realization between Dutch and English were sufficiently salient to these speakers, as were the different *uh:um* ratios. As expected, filled pauses' durations and F0 remained relatively stable across languages.

References

- [1] Clark, H. H., & Fox Tree, J. E. (2002). Using uh and um in spontaneous speaking. *Cognition*, 84, 73–111.
- [2] Braun, A., Rosin, A. (2015). On the speaker-specificity of hesitation markers. *Proc. 18th ICPhS Glasgow*, 731–736.
- [3] Hughes, V., Wood, S., & Foulkes, P. (2016). Filled pauses as variables in forensic voice comparison. *Int. J. Speech Lang. Law*, 23, 99–132.
- [4] McDougall, K., & Duckworth, M. (2017). Profiling fluency: An analysis of individual variation in disfluencies in adult males. *Speech Comm.*, 95, 16–27.
- [5] Künzel, H. F. (1997). Some general phonetic and forensic aspects of speaking tempo. *For. Linguist.*, *4*, 48–83.
- [6] De Leeuw, E. (2007). Hesitation markers in English, German, and Dutch. *J. Germ. Ling.* 19, 85–114.
- [7] Wieling, M., Grieve, J., Bouma, G., Fruehwald, J., Coleman, J., & Liberman, M. (2016). Variation and change in the use of hesitation markers in Germanic languages. *Language Dynamics and Change*, 6, 199–234.
- [8] Flege, J. E. (1995). Second language speech learning: Theory, findings, and problems. In:

- Strange, W. (Ed.), Speech Perception and Linguistic Experience: Issues in Cross-Language Research. York: York Press, 233–277.
- [9] Kolly, M. J., Leemann, A., De Mareüil, P. B., & Dellwo, V. (2015). Speaker-idiosyncrasy in pausing behavior: Evidence from a cross-linguistic study. *Proc. 18th ICPhS Glasgow*, 294–299.
- [10] Orr, R., & Quené, H. (2017). D-LUCEA: Curation of the UCU Accent Project data. In: Odijk, J., & Van Hessen, A. (Eds.), *CLARIN in the Low Countries*. London: Ubiquity Press, 177–190.