The strategic component of speech behavior

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The phonetic properties of the speech signal are determined by a variety of linguistic and extra-linguistic factors, among which the speakers' command of the language, their physical and emotional state, the intention of communication, but also the characteristics of the situation in which they evolve. Many studies have investigated the effects of such factors on the segmental and supra-segmental properties of speech sounds. Although some effects have been firmly established (e.g. the effect of stress and cognitive load on fundamental frequency), a large residual variability is typically observed despite the fact that many factors are experimentally controlled. This variability, traditionally attributed to "individual differences", is generally recognized, at best described, but rarely explained. In the framework of a transactional model of the relation between the human subject and her environment, it appears that a significant part of the inter- and intra-individual variability in speech production can be analyzed as the product of the control exercised by each speaker on her speech behavior in order to meet the specific constraints, internal and external, imposed by the situation of communication and all its components.

The main object of my research is thus the speech behavior in its *strategic* dimension. I study how speech production and speech perception are controlled by the speaker-listener in order to respond to the various constraints imposed by the situation of communication, and I examine how the associated mental representations are built, updated, or even restructured. In this talk, I will present specific studies exemplifying my work in recent years (in collaboration with my colleagues at UMONS) involving different types of situation allowing for strategic speech behavior to arise.

Three situations will be considered: (i) that of patients suffering from affections impacting speech motor control (e.g. Parkinson's Disease), with the aim of distinguishing between the effects of the disease, the effects of treatment, and possible individual compensation strategies; (ii) that of foreign-language learners confronted with phonetic variants unexploited in their native language (e.g voiceless aspirated stops for French-speaking learners of English); (iii) that of neurotypical adults submitted to several laboratory tasks (vocal disguise, phonetic compliance), in order to investigate their potential for phonetic flexibility as well as their propensity to exploit it when prompted by the necessities of the communication situation.