

Recalibration of lexical stress perception can be driven by visual beat gestures

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Auditory speech is highly variable. Listeners may therefore use the visual modality to disambiguate ambiguous speech sounds. For instance, when repeatedly presented with an ambiguous sound /a?a/ midway between /aba/ and /ada/, paired with a video of a talker producing either /aba/ or /ada/, listeners recalibrate their perception of a later presented auditory /aba - ada/ continuum (Bertelson et al., 2003). Here we tested whether recalibration can also occur for lexical stress perception. In Experiment 1 participants were exposed to an ambiguously stressed token of /ka.nɔn/, perceptually midway between Dutch CANon [strong-weak (SW); “canon”] and kaNON [weak-strong (WS); “cannon”], disambiguated either by a beat gesture aligned to the first or second syllable (visual). In a later test phase participant categorized an auditory CANon – kaNON lexical stress continuum. The results revealed that participants’ responses in the test phase shifted in the direction of the disambiguating beat gestures they saw in the exposure phase. In Experiment 2 participants were exposed to a different ambiguous word (/vo:r.na:m/) but tested on the same CANon – kaNON continuum, to test if the effect would also generalize to different words. However, results show that participants were not able to generalize. Ongoing work is investigating whether this generalization is modulated by acoustic distance. Nonetheless, the effect was clearly present across multiple auditory steps in Experiment 1. Therefore, we suggest that beat gestures can recalibrate lexical stress perception and thus have a long-lasting effect on auditory perception.