Effects of prior synchrony and asynchrony on tactile synchrony judgment： a psychophysical study (研究の成果発表)

Effects of prior synchrony and asynchrony on tactile synchrony judgment: a psychophysical study

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In this research, we investigated whether prior synchrony/asynchrony could affect tactile synchrony judgment. Participants (n = 12) engaged in a synchrony judgment task where they received two pairs of tactile stimuli across their index finger: an adaptor and a test stimulus pair and judged whether the test pair was synchronous or asynchronous. The stimulus onset asynchrony (SOA) for the adaptor (A-SOA) was set to be 0 (synchronous) or ±100ms (asynchronous), while for the test pairs (T-SOA) was set to 0, ±10, ±30, or ±100ms. The interval between the adaptor and test pairs (ISI) was 500, 1000, or 2000ms. A positive aftereffect occurred, in which participants judged the stimulus pair as more ‘asynchronous’ only when the adaptor pair was asynchronous (±100ms) but not synchronous (0ms). The aftereffect disappeared under the ISI of 2000ms. This positive aftereffect in response to prior asynchrony is consistent with the prediction of the optimal Bayesian estimation model.