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Perception of an infrequent assimilation: Labial-to-alveolar assimilation in German

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In German (and many languages) the alveolar nasal /n/ can assimilate to [m] if followed by a labial (e.g. 'in Berlin' → "i[m] Berlin"). In a German spontaneous speech corpus (KielCorpus), one also finds a few cases in which an /m/ followed by an alveolar consonant surfaces as [n] (e.g., 'samstag' → "sa[n]stag", Engl. Saturday). Four experiments investigated whether there is a similar pre-lexical compensation process for these labial-to-alveolar assimilations as previous research uncovered for alveolar-to-labial assimilations. This turns out to be the case: German and Dutch listeners-the latter potentially unfamiliar with this type of assimilation-tend to perceive the assimilated [n] in "sanstag" as /n/ if presented in isolation ("an"), but as /m/ if presented with minimal context ("ansta"). For German listeners, this context effect is larger if they hear the complete word "sanstag", introducing an additional lexical bias to perceive the [n] as /m/. Finally, phonetic detail such as transitions of the [s] fricative pole are also important: If the assimilated "an" is spliced into another /s/-initial syllable by the same speaker, the context effect is reduced. Perceiving infrequent assimilations seems therefore similar to perceiving frequent assimilations.