

Lexical influences on the progressive facilitation during perception of assimilated speech.

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Phonological processes such as place assimilation, in which coronal sounds partially adopt the place of a subsequent non-coronal (e.g. green boat becomes green/m boat), may create ambiguity during speech comprehension, but may also paradoxically facilitate word recognition. Gow (2001) demonstrated that partial assimilation facilitates perception of post-assimilation context. Two eye-tracking experiments investigated whether this progressive effect is influenced by lexical processes. Assimilated and non-assimilated adjectives (e.g. green) were spliced onto coronal or non-coronal nouns (e.g. boat or dog) to create phonologically plausible and implausible assimilation. In experiment 1, assimilation resulted in non-words; in experiment 2, words assimilated into other words, cuing lexical competition (e.g. cat box became cat/p box). Subjects viewed a screen showing 4 pictures: a coronal noun, one non-coronal, and two fillers. Eye-movements were monitored as subjects heard instructions to select a picture with a mouse. In both experiments subjects were reliably faster to look at the non-coronal target following the assimilated adjective than the non-assimilated one. This progressive effect occurred approximately 100 milliseconds later when assimilation created competitors (Exp 2). These results support an interactive view of word recognition in which lexical processing interacts in real time with phonological and perceptual grouping and integration processes.