

The role of intonation in vowel insertion

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In Italian, the pronunciation of loan words with a final consonant, such as <chat> or <facebook>, is often characterised by an additional word-final schwa. The insertion of this schwa is highly variable and dependent on a number of factors. These include speaker-specific preferences, metrical structure and the identity of the word-final consonant. Crucially, a considerable amount of variation is conditioned by intonation: A vowel is more likely to occur – and is acoustically more prominent – if the intonation is complex or rising than if it is falling (Grice, Savino & Roettger, 2018).

Another language in which vowels can be inserted, word-finally and word-medially, is Tashlhiyt Berber (Ridouane & Fougeron, 2011, Grice, Ridouane & Roettger, 2015). This language is known for its long consonantal, even voiceless, sequences but also for a high degree of variability in the insertion of vocalic elements. Here too, schwa insertion is not only affected by speaker-specific patterns and properties of adjacent consonants, but also by intonation, with it being more likely to surface in positions in which communicatively relevant tonal movements are realised.

In both of these languages, the insertion of a vowel creates a segmental environment with high periodic energy and a rich harmonic structure, which is optimal for realising intonation contours. The need to realise intonational tones – the *tune* – thus leads to the enhancement of the segmental makeup of the material bearing these tones – the *text*. The insertion of vowels is akin to the lengthening of vowels that are already present. This takes place in words ending in open syllables in Italian (Grice, Savino & Roettger, 2019), again when there is pressure to realise a complex or rising tune.

The other side of the coin is the preservation of tone-bearing material, such as the blocking of vowel devoicing and deletion in a number of languages (Gordon, 1998; Kilbourn-Ceron & Sonderegger, 2018) in similar tonal contexts, albeit some involving lexical rather than intonational tones. Inserting or preserving vocalic material serves to increase the likelihood of transmitting and retrieving intonational meaning (Roettger & Grice to appear), in line with findings that suggest that the interpretation of intonational contours is strongly impaired if conflicting requirements of tune and text lead not to enhancement of the text but to a truncation of the tune (Odé 2005; Rathcke 2013). Insofar as vowel insertion facilitates the production and perception of intonation, it is relevant for phonology and cannot be treated simply as a phonetic artefact.

References

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