

## Vowel Length and Quality Interactions in Welsh

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This research examined vowel length and quality in lexical and epenthetic contexts in a southern Welsh dialect to provide phonetic evidence for these distinctions. Welsh (Celtic) contains a rich vowel inventory of thirteen monophthong and diphthong pairs that differ in length and quality (Hannahs 2013). For example, vowels in stressed syllables (the penultimate) are longer and match the quality of a tense vowel, while unstressed vowels manifest as short and lax (Mayr & Davies 2011, Rees 2018). Additionally, Welsh uses a “copy” method of epenthesis to break up clusters of rising sonority whereby the inserted vowel matches in quality to its antecedent. For example, *aml* ‘often’, is realized as [amal]. This assumption would benefit from more recent data of a region not as extensively studied, including varieties spoken in the south, due to this dialect’s increased contact with English. Furthermore, Mayr et al. (2017) found large overlap in the vowel space of bilingual speakers, suggesting the influence of Welsh English on the production of Welsh vowels.

This research examined the speech of five native speakers (four women and one man) in south Wales (Carmarthenshire) who were all bilingual English speakers. Two research questions were tested: whether vowel quality and duration in stressed and unstressed syllables aligned with previous descriptions of Welsh and if epenthetic vowels matched the quality and duration of an unstressed lax vowel. The data collection was composed of two parts: a minimal pair word list and a short reading passage that included the epenthetic vowels. The word list was based on similar methodologies used by Mayr & Davies (2011) in their documentation of north and south Wales vowels.

The results revealed that the vowel formants, measured at the vowel’s midpoint, included the presence of disparate categories of tense and lax monophthong vowels. Furthermore, there was a significant difference in duration between the canonical tense vowels in stressed environments and their lax pairs ( $p < 0.05$ ). This confirms the results of previous studies (Mayr & Davies 2011, Rees 2018) where duration and quality were significant in differentiating monophthongs. However, duration between vowels was not significant in words undergoing epenthesis and moreover, these vowels were not the same quality as their lexical equivalent. Interestingly, there was a tendency towards centralization of the inserted vowel, which raises the possibility of English contact leading to this unexpected shift of the vowel space, connecting to previous observations of convergence in Welsh English bilingual speech (Mayr et al. 2017). This was particularly salient for vowels following an /i/, suggesting it was more susceptible to being backed and lowered in this context.

This research is relevant as it reaffirms the existence of a tense/lax distinction in southern Welsh while at the same time providing evidence that challenges assumptions that epenthetic vowels are identical copies of their predecessor. This may suggest that certain speakers are using a more schwa-like vowel for epenthesis which is also more flexible in length than lexical vowels. Thus, these speakers may be exhibiting a sound change in process or displaying an interaction between the epenthetic schwa in English and its correspondents in Welsh.

### References

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