

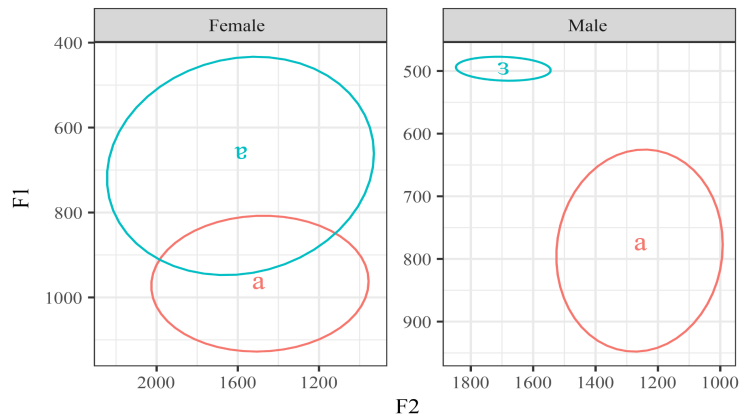
Vowel patterns in Dwang: A phonetic and phonological analysis

In this paper, we provide a preliminary description of the vowel inventory and harmony patterns in Dwang, a North Guano (Kwa; Tano) language spoken by around 8,000 speakers in the Bono East region of Ghana (Eberhard et al. 2021). This is, to our knowledge, the first description of the language. We have collected audio data from a number of community members, and this data is used to develop a basic phonetic and phonological analysis of the vowel harmony pattern in the language.

The language has eleven contrastive vowel qualities, including the common nine vowels with ATR contrasts for both high and mid vowels /i ɪ u ʊ e ɛ o ɔ a/, as in (1). In addition, the language appears to possess a pair of central vowels /ə ə/ that are also distinguished in terms of ATR, as seen in (2). While phonetic central vowels are attested in the related language Nawuri (Casali 2002), they only arise due to an allophonic pattern of centralization. In Dwang, the central vowels appear to be contrastive.

(1)	[-ATR]		[+ATR]	
	a-ʃíí	‘women’	kí-ɲí	‘tooth’
	kɛ-borɔ	‘poison’	ńdúú	‘medicines’
	dɛ	‘be.delicious’	ʃɛ	‘stamp.foot’
	sòò	‘buy’	oji	‘tree’
	a-frá	‘leaves’		
(2)	də	‘kick’	elón	‘song’
	a-kərə	‘spirits’		
	á-díra	‘mats’		

Relatedly, the low vowel /a/ allophonically alternates for harmony, as in Akan and Nawuri (Dolphyne 1988; Casali 2002, 2012). When followed by a [+ATR] vowel, the low vowel is produced with tongue root advancement. Compare [ɜ́-bí] ‘houses’ and [á-fɔ́] ‘foreigners.’ Further, we have found across-speaker variation; some speakers produce [ɜ] with more noticeable fronting and raising while others produce [ɛ] with only raising in [+ATR] contexts.



Data collected suggests the language has an unusually large vowel inventory for a Kwa language. All vowels except /a/ are paired for ATR harmony, producing prefixal alternations at each vowel height, e.g., [i-bó] ‘holes’ and [i-sí] ‘backs’; [ɜ́-ɲí] ‘teeth’ and [a-ʃíí] ‘women.’ Harmony operates leftward, and may extend across word boundaries within a compound, e.g., /a-bón=gbí/ [abón=gbí] ‘rooms’, although in such cases harmony appears to be only partial, *[ɜbón=gbí]. Additionally, we speculate that harmony may influence the realization of the liquids /l/ and /r/ (see Snider 1984 for Chumburung). Investigating the nature of ATR harmony in Dwang provides a significant empirical contribution, while more generally offering further insight into issues like the relationship between inventory size and harmonic activity (Casali 2008) as well as the behavior of low and central vowels.