Meaningful Dimensions in Dàgáárè Functors **Alexandra Lilia Ayala (UBC)**

Background. When form-meaning mappings are being established in a language, a tug-of-war arises between economy (Clements 2003) and expressiveness (Flemming 1995) over the kinds of contrasts that are important enough to be preserved. These contrasts between form, meaning, and function carve up the lexicon along various morphological dimensions to create salient and discriminable categories of morphemes. In this study, I argue for the dimensions that are necessary and sufficient to capture the contrasts in the set of function words in Dàgáárè, which is a Mabia (Gur; Niger-Congo) language spoken in Ghana and Burkina Faso. Dàgáárè is a tonal language with a contrastive /L, H/ inventory, as well as derivable downstepped and contour melodies. In Dàgáárè, functors like copulas and pronouns, amongst others, exhibit tonal alternations that surface in certain structures and discourse contexts. My assertion is that these alternations are predictable.

Research question. What are the contrasts that divide and define subsets of functors in Dàgáárè?

Examples. The sentences in (1) demonstrate alternations on the copula /ɪ/ that are conditioned by both tone rules and tense/aspect marking. In (1a), the L-tone copula surfaces with a rising LH tone. The H-tone of the affirmative marker conditions this contour. In all non-future contexts where the phonological environment does not include a subsequent H-tone, the copula surfaces as L. In prospective/future modalities (Bassarak & Jendrashek 2004), as in (1b), the copula ignores its phonological context and surfaces as a H-tone even if the PROSP/FUT marker is not adjacent.

(1) a. bájúó dà **ʔǐ́ lá** kɔ́ɔ́ˈráá
Bayuo PST COP AFF farmer
'Bayuo was a farmer'

b. bájúó **nà ʔí** lá kɔ́ɔ́ˈráá
Bayuo PROSP/FUT COP AFF farmer
'Bayuo will be a farmer'

The sentences in (2) show that the 3SG pronoun /ʊ/ surfaces as L-tone when it is the subject of a declarative (2a), but H-tone when it is the subject of an embedded clause in an interrogative (2b).

(2) a. **ʊ̀** bɔ́ɔ́-rɔ́ lá dííú
3SG want-IPFV AFF food
's/he wants food'

b. bǒŋ lá ká **ʊ́** bɔ́ɔ́-rɔ́
what AFF C 3SG want-IPFV
'what does s/he want?'

Methodology. This study organises functors into a multidimensional data structure (tab. 1), then applies set-theoretic operations (Harbour 2016; Déchaine 2018) to uncover associations between morpho-syntactic features and phonological expressions, like tone. Here, I have used the sentences in (1-2) to determine the features for the contexts in which each morpheme is found. What emerges is that the L- and H-tones split the dataset in two exactly where the [±IRREALIS] feature partitions the set. This suggests that tone encodes [±IRREALIS] for at least the class of copulas and pronouns.

Table 1. Mini example data structure used in partitioning methodology

Form	Category	Tone	M-Features	M-Feature Intersection
ì	copula	L	[**-IRR,** +PST, +PERF, -Q]	[-IRREAL]
ʊ̀	pronoun		[**-IRR,** -PST, -PERF, -Q]	
í	copula	H	[+**IRR,** -PST, +PERF, -Q]	[+IRREAL]
ʊ́	pronoun		[+**IRR,** -PST, -PERF, +Q]	

Significance. These alternations are traditionally described as segmental homophony, where underlying forms contain pre-linked tones and segments: /ì, í, ʊ̀, ʊ́/. I argue instead that tone needs to be stored independently, where the segmental material is either unspecified for tone, or linked to a L-tone by-default: /L, H, ʊ, ɪ/ (or alternatively /H, ʊ̀, ì/). While there are existing tonal accounts of open class items like nouns (Anttila & Bodomo 2007; Grimm 2021) and verbs (Angsongna 2021), the functional role that tone plays in closed classes is often undiscussed (Naden 1986; Bodomo 1997, 2020; Mwinlaaru 2017; Kwame 2019; Abubakari & Issah 2020). This work uses a novel approach within the Mabia literature to fill this gap and disentangle interface complexities.

Abbreviations

3SG	third-person singular
AFF	affirmative
C	complementiser
COP	copula
IPFV	imperfective
IRR(EAL)	irrealis (feature)
PERF	perfective (feature)
PROSP/FUT	prospective/future
PST	past
Q	question (feature)

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