Summary. Grammatical tone can systematically delete/replace lexical tone, but only if the target is syntactically inward. We present a fully modular account, whereby the scope of dominant tone emerges from recursive layering of morphs at Spell-out. We formalise this via Correspondence.

Types of grammatical tone. All African tone languages exhibit GRAMMATICAL TONE (Hyman et al. 2021), defined as tonal changes in a specific morphological/syntactic environment that cannot be attributed to general phonology. Grammatical tone (GT) can be divided into DOMINANT GT and NON-DOMINANT GT. Both types are found in Kalabari [ijn] (Harry 2004, Harry & Hyman 2014), which has a basic tone contrast between L and H. The associative construction [N_1 N_2] is used for possession and compounds, in which N_1 modifies a head N_2. In (1) below, the modifying N_1 is /tʊ̀bɔ́/ 'child', and the associative construction means 'a child('s) X'. This pattern shows dominant GT, whereby the lexical tone of N_2 is deleted and replaced by a HL pattern. Compare this to the imperative in (2) which exhibits non-dominant GT. Here, a HL pattern is appended to the right edge of the verb but co-occurs with the verb's lexical tones rather than replacing them.

Lex T	(1) Noun			Associative (DOM) (2)	Verb			Imperative (NON-DOM)
HL	bélè	'light'	→	tʊ̀bɔ́ bélè	ɓámà	'punish'	→	ɓá ᵗmáà
HH	námá	'meat'	→	tʊ̀bɔ́ námà	ọ́lọ́	'cough'	→	ọ́lọ́ọ̀
LL	pùlò	'oil'	→	tʊ̀bɔ́ púlò	lɛ̀gì	'sit down'	→	lɛ̀gíì
LH	gàrí	'garri'	→	tʊ̀bɔ́ gárì	ḍùkó	'tell, talk'	→	ḍùkóò

In the associative, when N_2 has more than two moras then the HL melody targets the two rightmost only, in (3b-c). The tone of the modifier spreads to the remaining initial mora of N_2.

(3) a. /kʊ́kàlí/ 'fruit' b. [tʊ̀bɔ́ kʊ̀kálì] 'child's fruit' c. [féní kʊ́kálì] 'bird's fruit'

Dominant GT in the associative deletes the tone of all inwardly-located structure, e.g. the complex NP in (4a) (URs: /àbàjì/ 'ocean', /námá/ 'animal'). However, an outwardly-located definite marker /mɛ́/ 'the' cannot be targeted by dominant GT, shown in (4b). Other D/Q markers are equally unaffected by the dominant GT, e.g. /má/ DEF.PL, /amɛ́ɛ̀/ INDEF.PL, and /mámgbà/ 'all'.

(4) a. [tʊ̀bɔ́ àbájì nàmà] 'child's ocean animal' (*[tʊ̀bɔ́ àbájì námá])
b. [tʊ̀bɔ́ kʊ̀kálì mɛ́] 'the child's fruit' (*[tʊ̀bɔ́ kʊ̀kálì mɛ̀])

Rolle (2018) shows that cross-linguistically, dominant GT is always restricted to inward targets. This is unlike non-dominant GT patterns which may apply inward or outward, depending on the language. This typological finding is called the DOMINANT GT ASYMMETRY, summarised in (5).

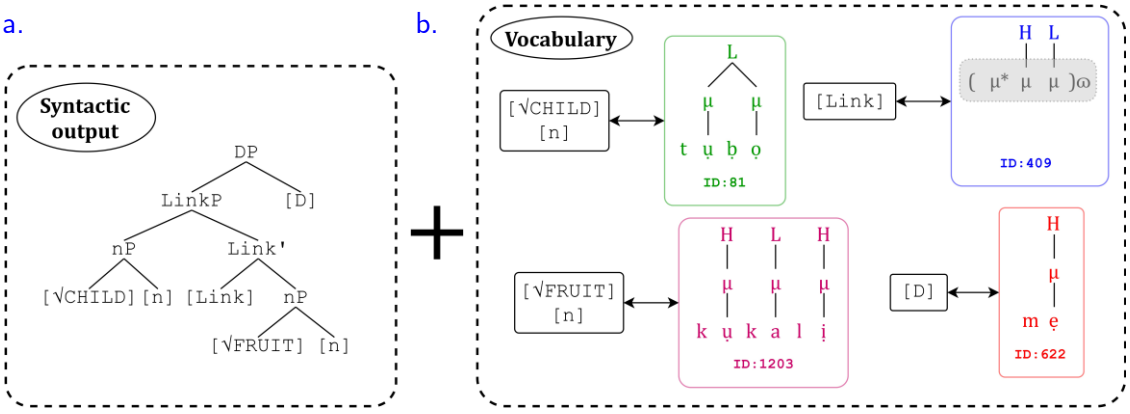
(5)	Trigger	→	Target	NON-DOM GT	DOM GT
Inward	Affix	→	Root	✓	✓
	Modifier	→	Noun	✓	✓
	Outer affix/mod.	→	Inner affix/mod.	✓	✓
Outward	Root	→	Affix	✓	*
	Noun	→	Modifier	✓	*
	Inner affix/mod.	→	Outer affix/mod.	✓	*

This restriction on directionality corroborates previous work on GT (McPherson 2014) and parallel findings for stress/'pitch accent' (Kiparsky & Halle 1977, i.a.), codified in the theoretical literature as principles of 'Strict Base Mutation' (Alderete 1999) and 'Stem Scope' (Inkelas & Zoll 2007).

Proposal. In this talk, we propose a novel account of GT dominance. Our model takes as its starting point the output of the syntactic derivation which is sent to Spell-out. For example, (4b) above corresponds to the syntactic structure in (6a) below, consisting only of syntactic features. At Spell-out, these syntactic features activate entries within the Vocabulary (6b), essentially stored syntax-phonology pairings familiar to realizational models of morphology (Embick 2015,

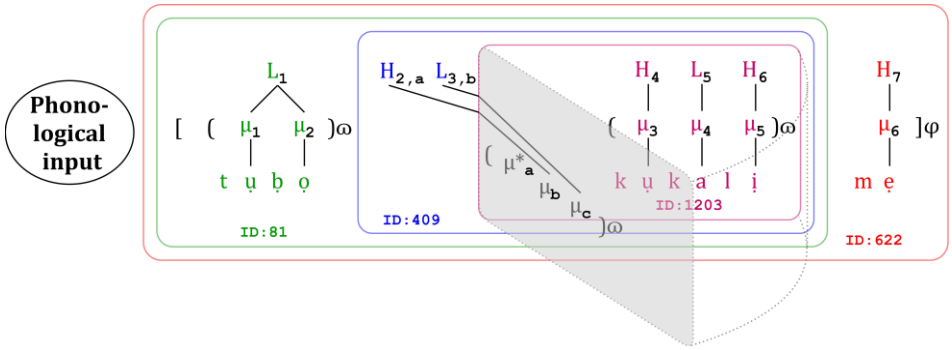
Scheer 2020). These involve normal phonological primitives (segments, moras, tones), and each item has a morphological index (=colour) to distinguish from other items (van Oostendorp 2005).

(6) a. b.



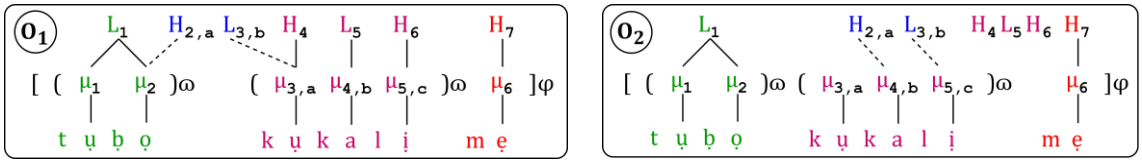
One item in (6b) requires further comment: the linker, analysed as a HL sequence associated to PHANTOM STRUCTURE, in grey (Rolle & Lionnet 2020). In essence, phantom structure constitutes an abstract template which is imposed on the phonological environment of the sponsoring morph. Spell-out takes the two parts of (6) and produces the input to the phonological module, in (7).

(7)



This input consists of (*i*) linearised morphs composed of phonological primitives, (*ii*) recursive layering of these morphs based on their syntactic position, and (*iii*) initial prosodification (ω, φ). Importantly, the phantom structure associated with the linker is not linearised with respect to the adjacent morph, but rather exists on a parallel phantom plane that is co-extensive with it. This input is evaluated by the phonology and mapped to an optimal output. Our model exploits Correspondence Theory (McCarthy & Prince 1995), whereby strings in the input correspond to strings in output candidates (O_1...O_n). This is indicated via subscripting in (7), and in (8) below.

(8)



There are two correspondence strings: one purely for the phonological substance (the numbers) and one for the phantom structure (the letters). The multiple planes of the input must be collapsed into a single plane in the output. Tone replacement is due to faithfulness to the tonal specification of moras in the phantom string correspondence. This favours output O_2 where μ_b maintains its association to H_a. Further, the scope of dominance is constrained by these correspondence relations. Because the outer determiner /mẹ́/ is not co-extensive with the phantom plane in the input, its mora μ_6 does not correspond to phantom structure and is unaffected by the GT. This proposal is fully modular in the sense that (*i*) it only refers to phonological primitives and relationships, and (*ii*) there is no sensitivity to syntactic primitives or structure after Spell-out.