

# Grammaticalised Sound Symbolism, Deixis and Phonological Locality in Tal

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We investigate how Tal (West Chadic, Nigeria) grammaticalises a crosslinguistic pattern of sound symbolism and explore the implications of the grammaticalisation for phonological theory. The relevant pattern of sound symbolism involves associating high acoustic frequency (i.e., fundamental frequency and second formant) with proximal deixis and low acoustic frequency with distal deixis (Nichols, 1971; Nuckolls, 1999; Ultan, 1978; Johansson and Zlatev, 2013; Haynie et al., 2014). Evidence for this pattern of sound symbolism is mostly from crosslinguistic survey of lexical items. Vocal imitation and crossmodal depiction, as the basis of sound symbolism, is an aspect of general cognitive system (Kuhl and Meltzoff, 1996; Doupe and Kuhl, 1999; Hauser et al., 2002; Lockwood and Tuomainen, 2015). Thus, we should expect grammaticalised sound symbolism in morphophonological operations. As sound symbolism is considered a peripheral aspect of human language until recently, there is reason to believe that its grammaticalisation is underdocumented.

To present arguments for grammaticalised deictic sound symbolism, we document, describe and analyse tonal alternations of modified nouns in Tal. As shown in (1), modified nouns bear L tone on all their tone-bearing units (TBU) when the modifier is a medial or distal demonstrative pronoun. When the modifier is a proximal demonstrative pronoun, only the final L tone of the modified noun surfaces as a M tone. In addition, nouns modified with a third person possessive pronoun or a noun are like those with the distal and medial modifiers, and nouns modified with the first and second person possessive pronouns are like those with the proximal modifier.

## (1) Demonstrative pronouns as modifiers in Tal

	N	N DISTAL	N MEDIAL	N PROXIMAL	
a.	dídí	dìdì pɛ́:	dìdì pɛ̀:	dídí sē	‘sweat fly’
b.	ḡḡlḡḡ	ḡḡlḡḡ pɛ́:	ḡḡlḡḡ pɛ̀:	ḡḡlḡḡ sē	‘internal organ’
c.	kàsèḡ	kàsèḡ pɛ́:	kàsèḡ pɛ̀:	kàsēḡ sē	‘beer filter’
d.	àlmákàfī	àlmàkàfì pɛ́:	àlmàkàfì pɛ̀:	àlmákàfī sē	‘scissor sp.’

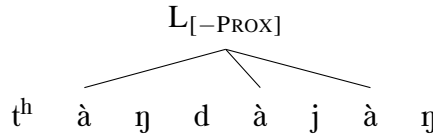
Based on the structure of nominal modification in Chadic languages (Cosper and Gital, 2004; Zimmermann, 2008; Hellwig, 2011) and the deictic properties of nouns and pronominals crosslinguistically (Lyons, 1977; Thrane, 1980), we will consider the overwriting L and M tones by-products of non-proximal and proximal linkers which respectively have the tone features [–Upper, –Raised] and [+Raised] as their exponents. When the root-final lexical tone is H or M, the overwriting [+Raised] feature of the proximal linker is not apparent as the lexical H and M tones form the natural class [+Raised]. In this case, the non-proximal and proximal linkers are non-segmental morphemes, also known as featural affix (Akinlabi, 1996). The asymmetry of locality in the realisation of the [–Upper, –Raised] and [+Raised]

featural affixes is a by-product of distinct and interacting constraints. A featural correspondence account of the featural affixes is presented within the framework of Optimality Theory (McCarthy and Prince, 1993, 1995; Prince and Smolensky, 2004).

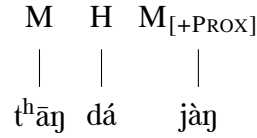
The association of the tone features [–Raised] and [+Raised] with non-proximal and proximal linkers respectively is consistent with crosslinguistic patterns of distance-related sound symbolism (Nichols, 1971; Ultan, 1978; Johansson and Zlatev, 2013; Haynie et al., 2014). Spreading the exponent of the non-proximal linker over a long phonological distance (as in (2a)) and docking the exponent of the proximal linker on the final TBU (as in (2b)) resemble the distance of the referents, in this case long and short distances respectively. Thus, the featural realisation and alignment can be considered another pattern of sound symbolism.

- (2) Sound-symbolic realisation of the deictic linkers for [t<sup>h</sup>ãŋdáján] ‘a type of raft’

a. Non-proximal linker



b. Proximal linker



Being limited to perceptual prominence and distinctive identification (Boersma, 1998; Frisch et al., 2004), the traditional notion of perceptual motivation in linguistic theory cannot account for the featural realisation and alignment that are motivated by sound symbolism. The motivation for sound-symbolic phonological patterns lies in depiction, which is the perceived or sensory resemblance between a form and its referent (Hyman, 2012; Dingemanse, 2015). Considering that depiction, as the basis of many sound-symbolic patterns, involves crossmodal sensory resemblance (Dingemanse, 2018), we propose an extension of perceptual motivation for phonological pattern to include the depiction of sensory imagery. The association of the tone feature [–Raised] with the non-proximal linker and the tone feature [+Raised] with the proximal linker evokes the inverse relationship between the length of a vibrating body (e.g., vocal cords) and the natural frequency at which the body vibrates. Thus, the grammaticalised deictic sound symbolism in Tal shares properties, such as phonetic grounding, naturalness and phonological asymmetry, in common with arbitrary phonological patterns. Most importantly, we contribute to the growing typology of grammaticalised sound symbolism (e.g., Alderete and Kochetov 2017 on expressive palatalisation, Akinbo 2021 on root-vowel fronting and backing, Hurch 2005 for an edited volume on reduplication). Consequently, Tal challenges the completely arbitrary view of form-meaning mapping (Hockett, 1960; de Saussure, 1974) and presents grammaticalised evidence in support of the view that recognises the role of both arbitrariness and non-arbitrariness in form-meaning mapping (Lockwood and Dingemanse, 2015; Dingemanse, 2018).

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