The Duplicitous Vedic *Devatā Dvandva*: Prosodic Recursion and (Mis)matching

Tamisha L. Tan (Harvard University, Nanyang Technological University)

1. <u>Overview</u> This paper forwards a novel analysis of a set of Vedic *dvandva* compounds which pose problems for theories of prosodic constituency by concurrently exhibiting traits of both syntactic phrasehood and lexical wordhood. Where existing accounts stipulate stratal constraint ordering distinctions between lexical and post-lexical stages (Kiparsky, 2010), this paper unifies and derives these compounds' seemingly contradictory behaviour by expanding Match Theory (Selkirk, 2011) to distinguish between roots and stems and allowing for Prosodic Recursion. As well as exploring the synchronic syntax-prosody interface, this paper proposes a diachronic pathway for these compounds' reanalysis from Vedic to Classical Sanskrit as the loss of intermediate recursive levels.

2. 'Contradictory' Data *Devatā dvandva* (aka the dual dvandva [Oliphant, 1912]) refer to a set of binary compounds in Vedic in which each element bears its own lexical accent and apparent obligatorily dual ending (the lengthened vowel ā or ī below):

(1)   a.   *agnī́-ṣómā*   'Agni & Soma'   c.   *mātárā-pitárā*   'mother & father'
        b.   *dyā́vā-pṛthivī́*   'heaven & earth'   d.   *mitrá-váruṇā*   'Mitra & Varuṇa'

On one hand, these compounds behave like unitary words; *ruki* retroflexion applies within them in all attestations of (1a), unlike in asyndetic coordination. Additionally, they share a single inflectional ending in oblique forms (2) and serve as nominal stems for derivation (3):

(2)   sajū́ḥ mitrā́-váruṇa-**bhyām**   (3)   mitrā́-váruṇa-**vant**-au
      joint   Mitra.DU-Varuṇa-INS.DU   Mitra.DU-Varuṇa-with-NOM.DU
      'Jointly with Mitra & Varuṇa [5.51.9a]   'With Mitra & Varuṇa'   [8.35.13a]

These stems are also liable to word-internal processes like ablaut and accent shift from dominant suffixes. When vocative, these *dvandva* bear a single accent when initial (4) but lose both accents in non-initial position (5), unlike in asyndetic coordination (Ryan, 2006.)

(4)   **índrā-somā**   yuvám asmā́n aviṣṭa   (5)   deváiḥ **dyā́vā-pṛthivī**   právataṃ naḥ
      Indra.DU-Soma.VOC.DU you.two us   help   gods   heaven.DU-earth.VOC.DU help   us
      'You, Indra & Soma – help us' [2.30.6c]   'Heaven & Earth, gods, help us' [1.31.8d]

However, these *dvandva* also act like syntactic phrases comprising two words. Unlike other compounds, they bear two accents in (1)-(3), and can be broken across caesura (Insler, 1998):
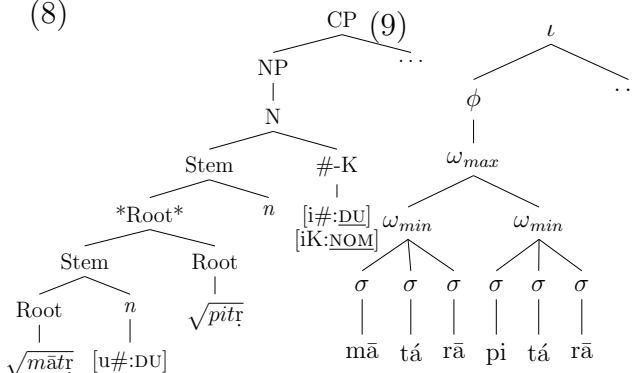
(6)   śáṃ na **índrā-** | **-váruṇā**   rātáhavyā
      luck us Indra.DU | Varuṇa.DU.NOM receive.oblations
      'Luck for us be Indra and Varuṇa, on whom oblations are bestowed'   [7.35.1b]

3. <u>Match Theory</u> This paper adopts the main Match constraints as follows:

(7)   a.   **Match Clause**: The edges of a CP in the syntactic structure must correspond to those of an ι in the phonological structure, and vice versa
       b.   **Match Phrase**: The edges of a XP in the syntactic structure must correspond to those of a φ in the phonological structure, and vice versa
       c.   **Match Head**: The edges of a X in the syntactic structure must correspond to the edges of an ω in the phonological structure, and vice versa

4. <u>Proposal</u> Following work by Harðarson (2017) and Fenger & Harðarson (2019) on Germanic compounds, this paper adopts a distinction within Distributed Morphology between $\sqrt{}$**roots** and categorised **stems**. Crucially, we revise (7c) to **Match Stem**: only $\sqrt{}$*roots* that have merged with category-defining heads can be mapped onto ω. This leaves canonical syntax-prosody mapping untouched in most cases, excluding compounding (Harley 2009) and incorporation under categorising heads. We claim that the 'internal' dual ending is the

morphological spell-out of n in the environment of an ASSOCIATIVE DUAL (Kiparsky). This ending, seen also in elliptical duals, marks its stem as part of a pair via an uninterpretable dual number feature. Mapping (1c) from the morphosyntax tree in (8) to the prosodic tree in (9) follows. The tree in (8) accounts for *dvandva*s sharing both **inflectional** (2) and

derivational (3) endings. Features on the higher #-K heads (compressed for brevity) condition VI of the higher n only, with the highest stem serving as the input for derivation. Harðarson's observation that $\sqrt{root}$s cannot merge with stems follows from Match Constraint violations, where the indicated ***Root*** level cannot be mapped onto prosody. This triggers prosodic restructuring in (9), where spell-out of the higher n is lowered. The structure in (9)

involves Prosodic Recursion, as argued for cross-linguistically (Ito & Mester 2012; Selkirk), and distinguishes between maximal (undominated by the same type) and minimal (not dominating the same type) nodes. Allowing different constraints to target these different prosodic domains then unifies our account. The application of **ruki** in (1a) and across reduplication, in compounds, and to the output of univerbation and cliticisation is predicted by iteratively taking any ω as its domain. We take **vocative** affixes to be dominant, and expand Frazier's (2007) account of dominant affixes as anti-faithfulness constraints:

(10) a. $\neg$MAX(A)ω_{max}: Dominant affixes suppress any inherent accent within ω_{max}
  b. MAX(A)$_{der}$: Do not delete inherent accent within a derivational affix
  c. NO-FLOP-ACC: No shifting of inherent accent within a root
  d. ALIGNL(A, ι): Accent is assigned to the leftmost syllable of an ι

(11) MAX(A)$_{der}$ $\gg$ $\neg$MAX(A)ω_{max} $\gg$ NO-FLOP-ACC $\gg$ ALIGNL(A, ι)

This ordering suppresses both inherent lexical accents in vocative *dvandva* (4), while producing ι-initial accent in initial position (5). This predicts initial accent on each conjunct in asyndetically-coordinated vocatives, assuming that each conjunct projects its own ι (as suggested by Selkirk for embedded 'illocutionary' CPs like non-restrict relatives, which pattern similarly to vocatives.) **Word accent** on non-vocative nouns is retained due to NO-FLOP-ACC and CULMINATIVITY, which requires every ω_{min} bear at most one accent. The latter also allows for two inherent accents in one ω_{max}. Other dominant **derivational affixes** retain their inherent accent due to MAX(A)$_{der}$. Finally, by allowing hemistiches to be aligned to the left edge of any ω, the *dvandva* may occur across a **caesura** if the hemistich aligns to the second ω_{min} (6).

(12)

	Domain	Constraints	Examples
Ruki	ω	AGREE$_{(Place)}$	(1a)
Vocative Accent	ω_{max}, ι	$\neg$MAX(A)ω_{max} $\gg$ ALIGNL(A, ι)	(4), (5)
Word Accent	ω_{min}	CULMINATIVITY	(1)-(3), (6)
Derivational Suffixes	ω_{max}	MAX(A)$_{der}$ $\gg$ $\neg$MAX(A)ω_{max}	(3)
Caesura	ω	ALIGNL(Hemistich, ω)	(6)

The loss of the ASSOCIATIVE DUAL in Classical Sanskrit hid evidence of the first root becoming a stem before combining with the second, and for intermediate recursive ωs. This resulted in Classical *dvandva* compounds merging two bare $\sqrt{root}$s under a single n, which was treated as a single ω.

6. References
Fenger & Harðarson (2019) One classy number. Frazier (2007) Accent in athematic nouns in Vedic Sanskrit and its development from PIE. Harðarson (2017) Cycling through grammar. Harley (2009) Compounding in DM. Insler (1988) Mitrávāruna or Mitrā́ Vā́runa? Ito & Mester (2012) Recursive prosodic phrasing in Japanese. Kiparsky (2010) Dvandvas, blocking, and the associative. Oliphant (1912) The Vedic dual. Ryan (2006) The Ṛg-Vedic fate of the devatā dvandva. Selkirk (2011) The syntax-phonology interface.