

# A reanalysis of (non-)exceptional patterns in Bondu-so tongue root harmony

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This paper explores various typologically and theoretically contentious claims that have recently been made about the tongue root vowel harmony system of Bondu-so, a Dogon language spoken in Mali. Bondu-so has been analysed as displaying three typologically- and theoretically-unusual characteristics: 1) asymmetrically-patterning bidirectional harmony, 2) a three-way [ATR] contrast on suffixes, and 3) abstract [ $\pm$ ATR] contrasts on high and low vowels which undergo absolute neutralisation (Hantgan & Davis 2012, Green & Hantgan-Sonko 2018). As summarised by the data in (1), roots are assumed to be contrastive for [ATR], as evidenced by harmonising suffixes such as the perfective. But Bondu-so also features non-harmonising suffixes which determine the [ $\pm$ ATR] value on roots – displaying both dominant [+ATR] harmony (e.g. the infinitive) as well as dominant [–ATR] harmony (e.g. the mediopassive). High vowels are non-alternating.

## (1) Bidirectional [+ATR] and [–ATR] harmony in Bondu-so

	UR of root	Underspecified suffix (perfective)	[+ATR] suffix (infinitive)	[–ATR] suffix (mediopassive)
[+ATR] root	/noj-/ ‘sleep’	[nòj-è]	[nój-ìlòŋ]	[nòj-ìjé]
[–ATR] root	/dɔg-/ ‘leave’	[dòg-è]	[dòg-ìlòŋ]	[dòg-ìjé]

If the above generalisations are correct, then the data in (1) constitute a significant challenge for privative feature theories. This is so because the characterisation of Bondu-so suffix-controlled harmony requires both [+ATR] and [–ATR] feature values since both underlying [–ATR]- and [+ATR]-specified roots undergo harmony alternations in their infinitive and mediopassive forms. Second, Bondu-so vowel harmony is directionally-asymmetric; [ $\alpha$ ATR]-root and [– $\alpha$ ATR]-suffix harmony in theory overlap and compete in forms such as INF. /dɔg-ìlòŋ/ → [dòg-ìlòŋ] and MED-PASS. /noj-ìjé/ → [nòj-ìjé], with suffix-controlled harmony winning out in both cases. A third reported complication of Bondu-so vowel harmony is that it is not always surface true. Bondu-so displays only seven surface vowels – [i, e, ε, a, o, ɔ, u]. High and low vowels are unpaired for tongue root features but nevertheless trigger both [+ATR] and [–ATR] harmony, as illustrated in (2). This has been taken as evidence of symmetric covert [ $\pm$ ATR]-contrasts on high/low vowels which are neutralised on the surface – an example of so-called ‘displaced contrasts’ since the distinctions are only revealed by harmony alternations on other vowels (Green & Hantgan-Sonko 2018).

## (2) Distinct high/low vowel [ $\pm$ ATR]-harmony in Bondu-so

[+ATR] root			[–ATR] root		
/bij-/	[bij-è]	‘s/he laid down’	/gɨj-/	[gìj-è]	‘s/he killed’
/sug-/	[sùg-è]	‘s/he went down’	/dʒɔg-/	[dʒùg-è]	‘s/he recognised’
/bər-/	[bàr-è]	‘s/he helped’	/pag-/	[pàg-è]	‘s/he tied’

The above patterns raise important questions about the abstractness of phonological representations and the locus of explanation in phonology in general. In this paper, I demonstrate that all of the above unusual characteristics of Bondu-so vowels and vowel harmony can be analysed otherwise and are attributable to a simple mischaracterisation of Bondu-so inflectional morphology. I argue the supposed directional asymmetries in vowel harmony in (1) and apparent abstract contrasts in (2) evidence distinct verbal classes which display common infinitive/mediopassive suffixes /-ìlòŋ, -ìjé/ but contrasting [RTR] /-è/ and (non-RTR) /-e/ perfective suffixes. In other

words, I interpret the near minimal pairs in (2) as plain surface contrasts: i.e. /-e/ in [bij-e] vs. /-ε/ in [gij-ε]. Following this non-abstract analysis, there is no bidirectional harmony – only suffix-controlled (right-to-left) harmony: e.g. /dog-ε/ → [dòg-è] and /noj-e/ → [nòj-è].

This reanalysis is consistent with what else is known about Bondu-so morphophonology. First, we know that roots undergo harmony, as evidenced by root-alternations in (1). Second, it is not controversial that Bondu-so displays distinct inflectional classes with differing harmony behaviours. For example, Hantgan & Davis (2012) report two nominal classes distinguished by their singular [RTR] /-ɔɔ/ and (non-RTR) /-aa/ endings, as shown in (3). Third, personal endings demonstrate that tongue root features are contrastive on suffixes and trigger right-to-left harmony: e.g. [ɖʒóŋ-óndʒ-è] vs. [ɖʒóŋ-óndʒ-éé] ‘heal’-IMPERF.-2.PL./3.PL. This reanalysis therefore does not introduce any new assumptions; I simply posit that the data evidence a greater number of distinct inflectional classes than has previously been recognised.

(3) **Distinct noun classes in Bondu-so**

	SING.	PLUR.	
CLASS 1	kób-òò	kób-èè	‘sheath’
	nènd-òò	nènd-èè	‘tongue’
CLASS 2	kób-áá	kób-éé	‘brick mold’
	cénd-àà	cénd-èè	‘heart/liver’

With this re-characterisation of the morphology, all of the typologically and theoretically controversial aspects of Bondu-so vowels and vowel harmony outlined above go away. I argue Bondu-so displays only seven vowel contrasts, both on the surface and underlying. Moreover, there is only (non-exceptional) suffix-controlled [RTR]-harmony, spreading from right to left. As is typologically common for harmonically-unpaired segments, high/low vowels are neutral (non-alternating) and transparent/invisible to vowel harmony, as illustrated by the data in (4).

(4) **Bondu-so high and low vowel transparency**

/kedʒ-ilon/	[kédʒ-ilòŋ]	‘cut’-INF.
/kedʒ-ijε/	[kédʒ-íjé]	‘cut’-MED-PASS.
/sem-andʒ-e/	[sém-ándʒ-è]	‘slaughter’-IMPERF.-2.PL.
/sem-andʒ-εε/	[sém-ándʒ-éé]	‘slaughter’-IMPERF.-3.PL.

I provide a thorough review of Bondu-so inflectional patterns which reveals missed generalisations, clarifies existing harmony exceptions, and which illustrates that Bondu-so vowels and vowel harmony are amenable to a simple privative analysis without the need for abstract contrasts or directional harmony asymmetries.

## References

- Green, Christopher & Abibe Hantgan-Sonko. 2018. Word-level ATR asymmetry: Insights from Bondu-so vowel harmony. Paper presented at the 41st annual meeting of Generative Linguistics in the Old World (GLOW), Research Institute for Linguistics of the Hungarian Academy of Sciences, Budapest, Hungary.
- Hantgan, Abbie & Stuart Davis. 2012. Bondu-so vowel harmony: A descriptive analysis with theoretical implications. *Studies in African Linguistics* 41(1). 1–26.