Quantity-sensitivity in Gujarati: Evidence from Hypocoristic formation and Reduplication

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Beyond descriptive accounts (Cardona 1965, Desai 1992, Mistry 1997, Doctor 2004), facts about Gujarati phonology at the suprasegmental level remain unexplored and unanalysed. In fact, the only conclusive suprasegmental fact that has emerged in the last decade is that Gujarati word stress is not sonority-driven, that is, it is not quality sensitive (Shih 2018, Bowers 2019). Gujarati is an under-studied Indo-Aryan language belonging to the Indo-Iranian branch of the Indo-European family of languages. Unsurprisingly, whether the language is quality-sensitive or quantity-sensitive is not established. The question of quality-sensitivity has been raised in some of the earlier works in Gujarati linguistics when discussing the nature of word stress in the language. Cardona (1965), Adenwala (1965), Mistry (1997), Cardona & Suthar (2003), and Doctor (2004) claim that stress falls on the syllable with a more sonorous vowel. Others like Turner (1921), Master (1925) and in recent times Shih (2018) and Bowers (2019) maintain that stress is positional. Modi (1983) is the only outlier stating that stress is attracted to a closed syllable (CVC), which is a heavy syllable.

This paper moves away from the debate on Gujarati word stress and examines two other phonological phenomena in the language, reduplication and hypocoristic formation. Both the phenomena are included in the range of weight-sensitive phenomena (Gordon 2006, Ryan 2016) found in languages of the world (Gordon 2006). In 1.a. and 1.b. we see the first pattern of hypocoristic formation found in the language where the hypocoristic is formed by affixation to a truncated form that has to be a bimoraic syllable. The bimoraic syllable is either of the form CVC as in 1.a. or CVV as in 1.b.:

1. Hypocoristics with CVC/CVV type truncated form

S.no.	Hypocoristic	**TF**-D affix-Gender affix	Name	Gender
a.	/**rʌgʰ**.ɭo/	/**rʌgʰ**-ɭ-o/	/rʌ.gʰu/	M
b.	/**kəi**.ɭi/	/ **kəi**-ɭ-i/	/kəi.ɭɑʂ/	F

In the type shown in 1, the hypocoristic 1.a. is formed by truncating the name to a bimoraic syllable having the form CVC, /rʌ.gʰu/ is truncated to /rʌgʰ/, and to this truncated form the derivational affix /-ɭ/ is attached followed by the gender inflection (masculine) /-o/. In 1.b. we see the same process taking place with the difference being that this time the bimoraic syllable is of the shape CVV as the first syllable of the name /kəi.ɭɑʂ/ contains the diphthong /əi/.

2. Hypocoristics with CVC type truncated form

S.no.	Hypocoristic	TF-D affix	Name	Gender
a.	/d̪i.pu/	/d̪ip-u/	/d̪i.pɑ/	F
b.	/ʊi.nu/	/ʊin-u/	/ʊi.nəj/	M

In the type shown in 2, the hypocoristic is formed by truncating the name to a bimoraic syllable, /ʊi.nəj/ is truncated to /ʊin/, and to this truncated form the derivational affix /-u/ is attached.

An OT analysis of hypocoristic formation of the types in 1 and 2 will need the ranking of constraints as given in 3, where STEM = $\text{PRWD}_{\mu\mu}$ has to be an undominated constraint.

3. STEM = $\text{PRWD}_{\mu\mu}$, MAX (affix), ALIGN-L >> MAX-ONSET >> MAX-σ_1 >> MAX-BA

In 4. and 5. we see two patterns of reduplication where the reduplicant has to be a bimoraic syllable:

4. a. /ɑʈ.ɭu/ "this much" /**ɑʈ**.ɑʈ.ɭu/ "exactly this much"

   b. /keʈ.ɭu/ "how much" /**keʈ**.keʈ.ɭu/ "exactly how much"

In 4.a. and 4.b. we see that the words are formed using partial reduplication where the reduplicant is a bimoraic syllable as in /ɑʈ/ and /keʈ/ respectively. That is the first syllable of the word /ɑʈ.ɭu/ is copied and attached to the left edge of the base.

5. a. /kʰer.ʊũ/ "to scatter" /kʰəŋ.kʰer.ʊũ/ "to dust off vigorously"

   b. /ʤʰoɽʊũ/ "to shake" /ʤʰəɲ.ʤʰoɽʊũ/ "to violently shake"

In 5.a. and 5.b. we again see a pattern of partial reduplication where the reduplicant is a bimoraic syllable of the shape CVC as in /kʰəŋ/ and /ʤʰən/ respectively. Here the reduplicant is of the shape C_1V_1N where N is a nasal that shares the place of articulation with C_1 (C_1 is the word initial consonant of the base which is copied to form the reduplicant).

An OT analysis of these reduplicative structures would require a ranking of constraints as given in 6, where RED = $\sigma_{\mu\mu}$ has to be an undominated constraint.

RED = $\sigma_{\mu\mu}$ >> *COMPLEX >> NO-CODA, MAX-BR

I argue that the data in 1, 2, 4 and 5 clearly show that these are weight-sensitive phenomena in Gujarati. The fact that the truncated form and the reduplicant needs to be a bimoraic syllable proves that syllable weight is a phonological reality in Gujarati. In light of this evidence, I propose that Gujarati is a quantity-sensitive language and other well-known weight-sensitive phenomena should be examined in the language to establish the extent of the influence of phonological weight in Gujarati.

Selected references:

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