

Positional production of velars in atypical acquisition

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Abstract

The aim of this paper is to investigate the positional status of velars and palatals in atypical Moroccan Arabic language production following OT (Prince & Smolensky, 1993). The informant is a 12-year-old with a phonological disorder, which implies a deficit in phonological processing (Buchsbaum, 2011). The data reveal that in onset position, the voiceless velar /k/ is articulated as /t/, while the voiced counterpart /g/ is articulated as /d/. In coda position, the voiceless velar is accurately

MA Velar Data	Gloss	Child Output
1. /kla/	“He ate”	/təra/
2. /gəlt/	“I said”	/dəlt/
3. /sak/	“handbag”	/sak/
4. /sag/	“he drove”	/sak/
5. /gəul/	“goal”	/dəul/

articulated, while the voiced counterpart undergoes devoicing.

The fronting of velars in initial position and their devoicing in coda position implies a discussion of markedness as in McCarthy & Prince (1993a; 1993b; 1995). Moreover, child phonology is endogenous, as Menn and Vihman (2011) purport. Accordingly, child-originating phonological changes emerge for certain phonetic difficulties the child encounters, which involve coda devoicing and onset fronting here. We will examine these findings by providing a unified OT account of the child data.

A careful analysis of the data reveals that, in accordance with Ingram (2008), the prosodic position of velars affects their fronting. The data, moreover, pinpoints a markedness relationship between the velar’s prosodic position and its adherence to voicing. We reveal the ranking of markedness and faithfulness constraints that generates these processes:

O * [+back], IDENT IO [-voiced/+voiced] >> IDENT IO [+velar], IDLar >> MaxVoice >> Align-L (-voice, σ)

O * [+back] is the dominant markedness constraint that bans velars in onset position. It is equally ranked with the correspondence in the voicing of the emerging segment with the source one, IDENT IO [-voiced/+voiced]; a faithfulness constraint. The faithfulness constraint IDENT IO [+velar] targets similarity in this feature, while IDLar ensures input-output velar agreement in voicing. MaxVoice prohibits the deletion of voicing, while the lowest ranked constraint ensures devoicing at the left of the syllable.

The emerging phonological processes are positional as they highlight that back consonants are less marked in coda position. Adversely, front consonants, such as the emerging palatals, are less marked in onset position.