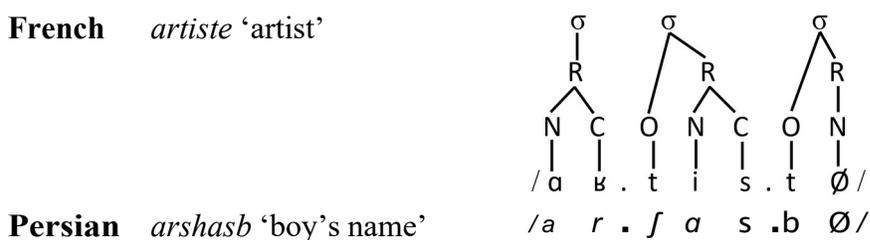


## Comparing the development of syllable codas in two phonetically similar languages

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**Background:** In a study of French phonological development, Rose (2003), building on Piggott (1999), proposes a developmental relationship between segmental representation and the syllabification of post-vocalic consonants. Rose further argues that different phonotactics (sound distributions) between different target (adult) languages may yield differences in developmental trajectories across languages. Rose's predictions are directly relevant to Persian, a language whose sound distributions are similar to that of French, in particular concerning syllable codas, both word-medially and word-finally. This is explicit in Tarahomi (2020), who argues that syllable codas in both of these positions abide by the same phonological distributions and, therefore, are formally equivalent. This is represented in Figure 1, where we can see that French and Persian display similar phone distributions across consonant clusters in both medial and final positions. Still in the tradition of Piggott (1999), these distributions can then be formally represented in similar fashions, as coda-onset consonant clusters, the final consonant prosodified as the onset of a syllable without a phonetically-realized nucleus:

**Figure 1:** Syllable Template in French and Persian



The current study addresses the predictions made by this model in the context of Persian first language development, also providing a direct comparison with Rose's (2003) results on French.

**Research question:** Do medial/final codas develop the same in Persian as they do in French?

**Data:** Longitudinal data from three monolingual Persian learning children as their first language, recorded from their earliest word productions. The audio data recordings were transcribed by a native speaker of Persian and analyzed using the Phon software program (Rose et al. 2006). We describe qualitatively and quantitatively the three children's development of consonants across all positions within the syllable and word.

**Evidence:** Contrary to expectations from the structural parallels between French and Persian in Figure 1, the Persian data depart from the French data in stark ways. While, in French, medial and final codas develop as part of two very distinct stages, both positions develop earlier in Persian, also without any clear stage distinctions.

**Hypothesis:** In light of the differences between the French and Persian data, we conclude that sound distributions alone cannot explain the data. We hypothesize that the frequency of occurrence of different phones in both medial and final codas actually steer the developmental curves in both languages. We support this hypothesis through both a re-examination of Rose's (2003) original data (available on PhonBank; <https://phon.talkbank.org>), which we compare to our Persian data. We show that while the prosodic positions are indeed distributionally the same, both medial and final codas in Persian display much more robust frequencies of occurrence than those of French, across all phonemic categories except for /r/, which represents the vast majority of codas in the French data.

**Discussion:** While representational distinctions between medial and final codas can be maintained as a factor affecting development, we modulate this hypothesis by showing how language-specific phone frequency can play an important role in phonological development, whose effects can also be predicted on a language-specific basis.

**Keywords:** acquisition, syllabification, coda, Persian, French

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