This paper presents results supporting the claim that language learners are biased toward phonetically motivated phonological patterns. Many phonological frameworks assume that such patterns are easier to acquire (e.g., Hayes et al., 2004), though this has been challenged in theoretical phonology (Blevins, 2004) and acquisition research (Seidl and Buckley, 2005). The current study compares looking times for phonetically motivated intervocalic voicing versus unmotivated intervocalic devoicing, without a familiarization phase. Two groups of English-learning infants (4.5 months and 10.5 months) heard both patterns from an infant Head-Turn Preference Procedure experiment (Kemler Nelson et al., 1995). Significant preferences were found on the part of both groups: 4.5-month-olds preferred the phonetically motivated pattern, while 10.5-month-olds preferred the phonetically unmotivated pattern. The results from the 4.5-month-olds support the hypothesis that infants are born with an *a priori* preference for phonetically motivated patterns, which language experience may override.