In Khalkha Mongolian, stem-internal vowels trigger harmony in suffixes in the carryover(left-to-right) direction. Vowel harmony patterns emerge when listeners fail to perceptually compensate for acoustic variation due to coarticulation. Towards understanding the relationship between these processes, we quantify coarticulatory variation in harmonic and non-harmonic VCV sequences. Unlike the former, the latter show greater propensity of coarticulation in the anticipatory(right-to-left) direction - opposite to that of vowel harmony. In light of this, we discuss how coarticulation might interact with grammatical knowledge: in languages where vowel harmony is well-established, directionality and strength of coarticulatory propensity serves as a means of contrast preservation.