A constraint based account of floating morae

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The proper realization of floating constituents has generated much interest in recent phonological research (Zoll 1996, Akinlabi and Liberman 2000, etc.) This paper offers an account of floating morae, focusing on two language isolates, Zuñi (New Mexico) and the Arbizu dialect of Basque (Navarre, Spain). Both languages have suffixes that lengthen the stem-final vowel (Hualde 1990, Newman 1996). Hualde attributes the lengthening in Basque to a floating mora and parallel arguments can be used to draw the same conclusion in the Zuñi data. In both languages, I assume the suffixes to be composed of two separate pieces. I explain the distribution of the floating mora as a matter of both moraic contiguity and alignment of the stem separately with the two pieces of the suffix.

In Zuñi, there are many suffixes with floating morae. The most common is the plural suffix of nouns /-weʔ,$^{\mu}$/, given in (1):

(1)

noun stem	*plural*	
pasi	pasi:weʔ	'wall'
yato	yato:weʔ	'donkey'
taku	taku:weʔ	'mountain'

(Newman 1996)

Arbizu Basque has two vowel-lengthening suffixes, both with the same phonetic content: /-n,$^{\mu}$/. The first is the superlative on adjectives (e.g. berde:n 'greenest') and the second is the genitive indefinite, contrasted in (2) with the non-lengthening, genitive plural suffix /-en/:

(2)

base	*gen. pl.*	*gen. indef.*	
pa:te	pa:tien	pa:te:n	'wall'
asto	astuen	asto:n	'donkey'
mendi	mendiyen	mendi:n	'mountain'

(Hualde 1990)

I argue that the restricted distribution of the mora can be modeled under Optimality Theory (OT) using fundamental constraints applied at both the segmental and moraic levels. In both languages, the docking position of the mora is restricted to the position between the stem and the remaining suffix material by a pair of constraints. The floating mora is disallowed from docking within the stem due to contiguity at the moraic level. Following the theory of Correspondence (McCarthy and Prince 1999), moraic contiguity, CONTIG (μ), gives a violation for every pair of adjacent morae in the input that is not adjacent in the output, and vice-versa. A floating mora is thus prohibited from docking between adjacent stem morae. The other constraint, ALIGN (*f*,L,*s*,R), or "align suffix left with stem right," follows McCarthy and Prince's Generalized Alignment (1993). When applied to both pieces of the suffix, the smallest number of total ALIGN violations will occur only when the smaller piece is located closer to the stem, restricting the mora from docking within or at the end of the suffix.

The implications of using moraic contiguity to account for the data add to McCarthy's (2000) claim that there is a high level of correspondence between morae. Also, the use of ALIGN to account for the prohibition of certain docking positions predicts that the smaller chunk will always occur closer to the stem whenever two or more pieces are combined simultaneously. This challenges the monostratal morpho-phonology assumption of OT because it predicts the existence of a language whose affixes are always ordered from shortest to longest.