

PROSODY, FAITHFULNESS, AND SYLLABLE STRUCTURE
IN OCEANIC AND CHAMIC

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A shift from light, bisyllabic feet to heavy, monosyllabic feet has occurred in both Oceanic and Chamic. In Oceanic, it has occurred synchronically in the languages Rotuman and Kwara'ae in the informal register of discourse, while forms with original, bisyllabic feet are still preserved in careful citation. Examples are given in (1):

(1) Rotuman:

(ké.u)	→	(kéu)	'to push'
(hó.sa)	→	(hóas)	'flower'
fa.(mó.ri)	→	fa.(mór)	'people'
fe.re.(á.fu)	→	fe.re.(áf)	'fly away'

Kwara'ae:

(gé.o)	→	(géó)	'megapod'
(sé.lo)	→	(séol)	'sail'
a.(lá.ge)	→	a.(lá:ŋg)	'seaweed'
sa.(tá.da)	→	sa.(tá:nd)	'their name'

In Chamic, the shift from light bisyllabic to heavy monosyllabic feet occurred diachronically under certain conditions between the stages Proto-Malayo-Chamic and Proto-Chamic. This happened under the influence of Mon-Khmer (Bahnaric and Katuic) languages that surrounded the speakers of Proto-Chamic on the Eastern side of the Southeast Asian peninsula:

(2) Stop + Laryngeal Onset

(bá.ʔu)	→	(βéw)	'stench'
(pá.hit)	→	(phít)	'bitter; bile'
(tá.hu)	→	(théw)	'know; be able'
(bú.ʔuk)	→	(βúk)	'head hair'

Stop + Liquid Onset

(bə.láh)	→	(bláh)	'chop; split'
(kə.rá)	→	(krá:)	'monkey (chatter)'
(dí.ri)	→	(dréy)	'self; body'
(tú.run)	→	(trún)	'descend'

I assert that these changes were motivated informally by the Stress-To-Weight Principle, which requires that stressed syllables be bimoraic, as well as through language contact with Mon-Khmer languages (in the case of Chamic).

An Optimality Theoretic (OT: Prince and Smolensky 1993) analysis is offered, which argues that these changes resulted in a similar shift in constraints in the grammars of the languages in question. The resulting changes in syllable structure, as well as differences between Oceanic and Chamic, are understood to stem from the interaction between prosodic alignment constraints, faithfulness constraints, and structural markedness constraints, the latter generally giving way due to tension between the first two kinds of constraints. More

specifically, the response to the Stress-To-Weight Principle and to language contact motivated the formal re-ranking of the two prosodic alignment constraints below:

(3) ALLMORARIGHT >> ALLSYLLRIGHT → ALLSYLLRIGHT >> ALLMORARIGHT

The consequences of this prosodic realignment and its interaction with faithfulness constraints resulted in dramatic changes in the shapes of syllables:

- The optimal foot shifted from the bisyllabic trochee to the heavy, monosyllabic trochee.
- Heavy syllables were introduced and moraic codas became possible.
- In the Oceanic languages, new diphthongs and vowels were introduced into the phoneme inventory.
- New diphthongs in stressed syllables were introduced in Chamic as well, and two kinds of onset clusters became licit where previously there had been no clusters at all.

The most significant difference between faithfulness violations in the two kinds of languages has to do with the original segmental composition of their inputs. In the case of Rotuman and Kwara'ae, where codas were originally absent, DEP- μ was preserved at the expense of LINEARITY: $CV_1CV_2 \rightarrow CV_1(V_2)C$.

However, since codas were already possible in Proto-Malayo-Chamic, LINEARITY had to be preserved to prevent illicit coda clusters ($C_1VC_2VC_3 \rightarrow *C_1VVC_2C_3$) and avoid consonantal deletion ($C_1VC_2VC_3 \rightarrow *C_1VVC_2$). The only alternative was to allow the addition of moras at the right edge of the foot, violating DEP- μ , but maintaining segmental faithfulness. Since these constraints interacted in both cases with an undominated MAX-C(onsonant), the final rankings were the following:

(4) Oceanic: MAX-C, DEP- μ >> LINEARITY
 Chamic: MAX-C, LINEARITY >> DEP- μ

This paper demonstrates how systemic effects outside the formal grammar such as the Stress-To-Weight Principle and language contact can motivate changes in languages that can be formally captured through constraint re-ranking. The formal similarities between the synchronic alternations in Rotuman and Kwara'ae, and the diachronic change between Proto-Malayo-Chamic and Proto-Chamic, are captured using the same prosodic and faithfulness constraints. These two kinds of constraints are in tension with each other in both languages, and result in nearly identical changes in foot structure, with minimal differences in syllable structure resulting from the different kinds of input in Oceanic and Chamic respectively.

REFERENCES

PRINCE, ALAN, and PAUL SMOLENSKY. 1993. Optimality theory: Constraint interaction in generative grammar. Ms., Rutgers University, New Brunswick, and University of Colorado, Boulder.

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