Alexander Smith (University of North Texas)

Iterative feature spreading and the development of Segai-Modang vowel contrasts.

Consonant epenthesis and consonant-altering phenomena are widely known to be subject to vowel conditioning (see Blevins 2008, Culhane 2017, Staroverov 2014 on epenthesis). Where vowels alter consonant shape features may spread from vowel to consonant, for example, *he* pronounced [çi] in the familiar English pattern. This paper discusses a system of iterative feature spreading in the Segai-Modang group of East and North Kalimantan (Indonesia), where features from Proto-Malayo-Polynesian (henceforth PMP) penultimate vowels spread first to the final-syllable onset, sometimes altering its shape, and later to the final-syllable nucleus, a process that took place alongside penultimate vowel reduction, contrast neutralization, and eventual deletion (Smith 2017). Iterative feature spreading is supported where competing hypotheses fail. Namely, two hypotheses, i) metathesis, and ii) vowel harmony, may explain some but not all aspects of Segai-Modang vowel development, leaving iterative feature spreading as the most explanatory hypothesis on the phonological development of these languages.

Although modern Segai-Modang langauges have completely neutralized inherited penultimate vowel contrasts, reconstructed penultimate vowel features are preserved in the final-syllable vowel. The relationship between PMP penultimate vowels and the Segai-Modang final syllable is most clear where PMP (or Proto-Kayanic) had *i or *u in the penult and *a in the ultima (*CiCaC or *CuCaC). In these cases, the final-syllable reflex of *a has taken on the reconstructed penultimate vowel features in modern Segai-Modang. Thus, PKAY *CuCaC became C(ə)CuC and *CiCaC became C(ə)CiC, with several languages showing a schwa-like offglide, -Cu̯C or -Ci̯C. In the following examples Wahau, Gaai, Kelai, Mei Lan, Woq Helaq, and Long Gelat are modern Segai-Modang languages, y = [j], and ñ = [ɲ].

Proto-Kayanic	Wahau	Gaai	Kelai	Mei Lan	Woq Helaq	Long Gelat
*kitan ‘binturong’	-	tiu̯n	ktin	kətin	kətin	kətuu̯n
*pitan 'nine'	səptiu̯n	japtin	jəptin	səptin	səptin	səptuu̯n
*utaʔ ‘vomit’	tuu̯ʔ	tuʔ	tuʔ	tuu̯ʔ	tuu̯ʔ	tuʔ
*kulat ‘mushroom’	kluu̯t	kluu̯t	kluu̯t	kəlut	kəlut	kəluu̯t

I refer to the conditioned vowel reflexes in modern word-final syllables as RAISED VOWEL REFLEXES. This presentation argues that vowel features spread to the onset and later to the following vowel through a process of historical iterative feature spreading, refuting other hypotheses which seek to explain these data. Evidence for feature spreading is three-fold:

Unexpected raised vowel reflexes with neutral penults: In cases where a penultimate vowel is neutral [a], we nevertheless find raised vowel reflexes where there is a proper final-syllable onset:

Proto-Kayanic	Wahau	Gaai	Kelai	Mei Lan	Woq Helaq	Long Gelat
*həcan ‘stairs’	həsɪu̯n	ciu̯n	-	həsin	həsin	həsun
*ayam ‘domesticated animal’	jɪu̯m	jim	jiu̯m	jim	jim	jum
*sawa-n ‘spouse’	səguu̯n	sgoʔ	sagoʔ	səgun	səgun	səgun

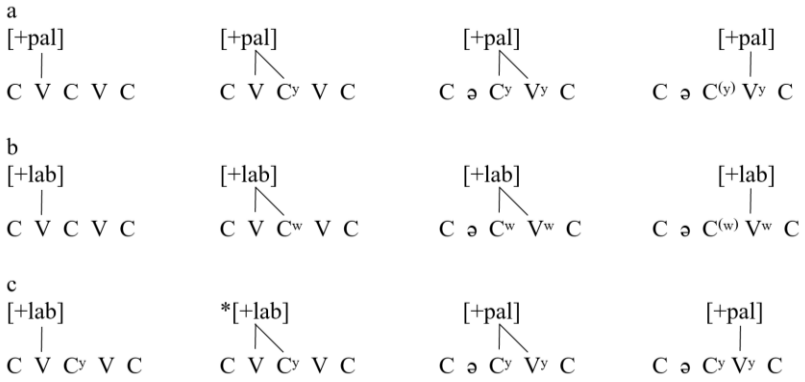
Blocking: Where a back (*u) or front (*i) vowel in the reconstructed penult is followed by a labial or palatal consonant, the consonant blocks vowel-driven feature spreading, sometimes resulting in a reversed raised vowel reflex in the modern langauges. This shows that onsets directly condition modern reflexes and that penultimate vowels only do so indirectly.

Proto-Kayanic	Wahau	Gaai	Kelai	Mei Lan	Woq Helaq	Long Gelat
*ucan ‘rain’	-	ciə̯n	ciə̯n	sin	sin	sun
*niwaŋ ‘skinny’	ŋwaŋ	-	məŋuŋ	əŋŋuə̯ŋ	məŋuə̯ŋ	haŋuə̯ŋ

Conditioned onset shift: Additional evidence that vowel features spread through onsets first comes from cases where onsets shifted to match the quality of a historical penultimate vowel. For example, where *ŋ appeared after *i, as in PKAY *təliŋa ‘ear’, it is reflected as a palatal in the modern languages.

Reflexes of *təliŋa ‘ear’
Wahau *kəlñiə̯n*, Mei Lan and Woq Helaq *kəñin*, and Long Gelat *kəñuu̯n*.

A schematic showing the historical process of vowel feature spreading and blocking is printed below, with a and b showing successful spreading to the final syllable, and c showing a case where inherent features on the final-syllable onset block iterative feature spreading. For the purpose of this example I am assuming that vowels are acceptable hosts for palatal and labial features as per Donegan 1978.



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