Phonologically conditioned affix order in Yidiɲ: Evidence for strata
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Introduction   In this paper, I argue that a case of *phonologically conditioned affix order* (PCAO) in Yidiɲ (Pama-Nyungan, Australia) aligns with the predictions of Stratal Optimality Theory, thus lending support to a stratal model of the morphology-phonology interface. PCAO applies within the first of exactly two word-internal strata and is counterfed by affixes of the second stratum. Evidence for a stratal architecture of the word comes not only from PCAO, but also from affix asymmetries in final syllable shortening. All data is from Dixon (1977).

Phonologically conditioned affix order   In Yidiɲ, some affixes have the property of lengthening the preceding syllable, such as the GOING suffix *-ːri*. In combination with monosyllabic affixes, their position depends on the syllable structure of the root. With a bisyllabic root, the lengthening suffix follows the root, as in (1-a). With a trisyllabic root, the lengthening suffix follows the COM/CAUS suffix, see (1-b). Dixon (1977) concludes that the affixes are ordered in such a way that the GOING suffix lengthens an even-numbered syllable (the second in (1-a), the fourth in (1-b)). In short, Yidiɲ exhibits a case of *phonologically conditioned affix order*.

(1)   a.   magi-ːri-ŋa-l
           [ma.giː.ɟi.ŋal]
           climb.up-GOING-COM/CAUS-CL

      b.   maɖinda-ŋa-ːli
           [ma.ɖin.da.ŋaː.li]
           walk.up-COM/CAUS-GOING

The INTRANS suffix is similar to the GOING suffix as it also lengthens the preceding syllable, as shown in (3-c). In (2-b), it combines with a trisyllabic root and a monosyllabic, inflectional PURP suffix creating a context which is phonologically similar to (1-b). In (2-b), however, affix reordering does not take place (see (2-c)). Instead, length is on the INTRANS suffix itself. We can conclude that there are three types of affixes. First, there are three different monosyllabic and prelengthening derivational suffixes. Second, there is the monosyllabic derivational COM/CAUS suffix *ŋa*, whose relative position to the prelengthening aspectual suffixes is driven by phonological factors. Third, there are monosyllabic, inflectional suffixes, which always follow derivational suffixes, independent of the phonological structure of the root.

(2)   a.   buga-ːɟi
           [(bu.gaː).ɟi]
           eat-INTRANS

      b.   wuŋaba-ːɟi-na
           [wu.ŋa.ba.ɟiː.na]
           hunt.for-INTRANS-PURP

      c.   *[wu.ŋa.ba.naː.ɟi]

Final syllable deletion: Evidence for strata and feet   Yidiɲ has another phonological process which exhibits asymmetries between the same types of affixes. The vowel of the final syllable is deleted if non-deletion would result in a word with an odd number of syllables, compare (3-a) to (3-b). In general, final syllable deletion follows the rule: CV(C).CV(C).CV ⇒ CV(C).CVː(C)C. Final syllable deletion affects both roots and suffixes, with exceptional non-participating morphemes in both groups. However, final deletion does not apply similarly to all morphemes. Although the combination of prelengthening suffixes and bisyllabic roots is trisyllabic, the final vowel of prelengthening affixes is never deleted, see (3-c,d). In general, final syllable deletion only applies when shortening produces licit codae. The COM/CAUS shortens, as in (3-e). After a nasal-final root, however, deletion of the vowel would produce the illicit coda combination /ɲŋ/. It is not possible to delete the suffixes altogether, as in (3-g-i). The same observation holds for roots. With inflectional affixes, consonants may be deleted to produce licit codae. This is illustrated in (3-j-l). The example in (3-j) involves the inflectional affix *ɲunda*. Final syllable deletion would result in the form in (3-k), which involves an illicit coda /nd/. As a consequence, a consonant is deleted, resulting in a word with two binary feet and a licit coda. This process might even cause the deletion of entire affixes. In sum, final syllable deletion reveals another asymmetry between three groups of affixes: prelengthening suffixes never shorten. As for the COMIT/CAUS suffix, the final vowel may be deleted to produce words

with binary feet if the resulting word contains a licit coda. With inflectional syllables, however, both vowel and consonant may deleted.

(3) a. /gindanu-ŋgu/
         [(gin.da)(nu.ŋgu)]
         'moon-ERG'
     b. /gindanu/
         [(gin.daːn)]
         'moon.ABS'
     c. buga-ːɖi
         [(bu.gaː).ɖi]
         eat-INTRANS
     d. *[(bu.gaːɖ)]
     e. /gada-ŋa/
         [gadaːŋ]
         come-COMIT

     f. *[[gadaŋa]]
     g. /guriɲ-ŋa/
         [(gu.riːɲ)ŋa]
         good-COMIT/CAUS
     h. *[(gu.riːɲŋ)]
     i. *[(gu.riːɲ)]
     j. /binarŋa-l-ɲunda/
         [(bi.nar)(ŋalɲuːn)]
         'warn-CL-DAT.SUBORD'
     k. *[(bi.nar)(ŋalɲuːnd)]
     l. *[(bi.nar)(ŋalɲuːn).da)]

Idea of the analysis   In this paper, I suggest a unified analysis of PCAO and final syllable shortening in Stratal Optimality Theory. My analysis rests on the following assumptions:
① Prelengthening suffixes come with inherent foot structure. This explains the PCAO patterns in (1) in the following way: Feet should be binary and left-aligned. As a consequence, the order in (4-a) is better than the order in (4-b), because (4-b) contains an unparsed syllable between the footed suffix -ɹi and the left edge of the word. Similarly, (4-d) is suboptimal as it contains two unparsed syllables, which are parsed into a binary foot in (4-c). Footing also prevents shortening in prelengthening affixes.

(4) a. magi-ːri-ŋa-l
         [(ma.giː).(ɹi).ŋal]
         climb.up-GOING-COM/CAUS-CL
     b. *[(ma.gi).ŋal.(ɹi)]

     c. maɖinda-ŋa-ːli
         [(ma.ɖin).(da.ŋaː).(li)]
         walk.up-COM/CAUS-GOING
     d. *[(ma.ɖin).da.(li).ŋa]

② There is only a single source of vowel length. Vowel length occurs before unary feet (which might be deleted later by final syllable deletion). ③ Words in Yidiɲ consist of two strata, where all derivational suffixes belong to the *stem level*, while inflectional affixes belong to the *word level*. PCAO takes place at the stem level, and inflectional affixes enter the word too late to participate in PCAO. The stratal architecture also explains the asymmetry between shortening roots and the COM/CAUS suffix on the one hand, and shortening inflectional suffixes on the other hand. Since the root and derivational suffixes have already passed one cycle of phonological optimization, they have already undergone syllabification. The absence of deletion of consonantal material can henceforth be explained by a ban on deleting syllabified consonants. In sum, the asymmetries give rise to the following structure:

Slot 1	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6	
root		derivational affixes (-n/-l/-ɹ)		class marker	inflection	
	COMIT/CAUS		-ŋa/-maŋa/-maŋa -l	-n/-l/-ɹ	PST	-ɲu
	INTRANS		-ːɖi -n		PURP	-na
	GOING		-ŋali/-ːli/-ːɹi -n		DAT.SUBORD	-ɲunda
		stem level: PCAO & syllabification				
		word level: final syllable shortening & syllabification				

Summary: In this paper, I offer a unified analysis of PCAO and final syllable shortening in Yidiɲ. I argue that both phenomena provide compelling evidence that the word consists of exactly two strata: the stem level (where PCAO takes place) and the word level (where final syllable shortening takes place). **Reference:** Dixon, Robert MW (1977): *A grammar of Yidin*.