# Phonologically Conditioned Affix Order in Washo

Johanna Benz
benz.johanna@web.de

## 1 Introduction

> **Claim:** Affix order in Washo is partially phonologically conditioned. Stratal OT offers a particularly interesting set of options and restriction in dealing with phonologically conditioned affix order (PCAO).

**Overview:**

- in Washo, stem-level suffixes are reordered to avoid a stem-final stressed syllable if possible

- at the stem level, the phonological constraint NONFINALITY outranks morphological alignment constraints (making this a $P \gg M$ analysis, see McCarthy & Prince 1993, Paster 2006a,b, 2009)

- unstressed suffixes are later added at the word level but counterbleed the observed change in affix order

## 2 PCAO

- "phonologically conditioned affix order": semantically and/or morphologically unexpected affix order triggered by phonological constraint(s), affixes may be more than one segment long

- Paster (2009) argues that "true" PCAO does not exist, reported cases reduce to either segmental metathesis or infixation

- Washo (isolate, North America) is a counterexample:

- affix order in Washo is *non-transitive* (c.f. Ryan 2010)

- data[1] from Jacobsen (1964, 1973), who also identified the pattern as phonologically conditioned

---

[1]Abbreviations: 1SBJ: first person subject, PL.INCL: plural inclusive, NEAR.FUT: near future, IND: independent mood, NEG: negation

(1)  léme?huyáša?i
     le-íme?-hu-áša?-i
     1SBJ-drink-PL.INCL-NEAR.FUT-IND
     "We (incl.) are going to drink."

(2)  léma?áša?é:si
     le-íme?-áša?-é:s-i
     1SBJ-drink-NEAR.FUT-NEG-IND
     "I am not going to drink."

- from this data we might infer: PL.INCL-NEG

- instead, we find NEG-PL.INCL

(3)  léme?é:shuyi
     le-íme?-é:s-hu-i
     1SBJ-drink-NEG-PL.INCL-IND
     "We (incl.) are not drinking."

# 3 Washo verbs in Stratal OT

**Stratum 1**: Stem-level suffixes

(4)

| /íme?/, /hu/, /é:s/ | NONFINALITY | NEG-R | INCL-R |
|---|---|---|---|
| a. íme?-hu-é:s | ∗! | | ∗ |
| ☞ b. íme?-é:s-hu | | ∗ | |

- affixes are unordered in the input, only stem-level affixes present

- some affixes are stressed. Stress is treated as inherent here (though probably assigned at an earlier "Stratum 0")

- morphologically preferred order (semantically transparent, transitive) encoded in alignment constraints which are violated once for every morpheme intervening between e.g. NEG and the right edge of the stem

- NONFINALITY (here, simply: do not have a stressed last syllable, compare Prince & Smolensky 2004) causes that order to change, yielding non-transitive, potentially opaque order

- on Stratum 2, prefixes and word-level suffixes are added. The word-level suffixes are never stressed, so they never violate NONFINALITY.

# 4 Cyclicity and PCAO

- why are all stem-level affixes added on one cycle?

- process of dislocating an unstressed suffix such as Plural Inclusive *-hu* may apply across intervening affixes:

(5)     lémaʔášaʔéːshuyi
         le-ímeʔ-ášaʔ-éːs-hu-i
         1SBJ-drink-NEAR.FUT-NEG-PL.INCL-IND
         "We (incl.) aren't going to drink"

- sidenote: this rules out an analysis where Negative *-éːs* acts as an infix (c.f. Paster 2006a,b 2009), because infixes cannot change the respective order of other affixes

- assuming Bracket Erasure (Kiparsky 1982, see also Bermúdez-Otero 2011), the morphological makeup of the inner stem becomes invisible, PCAO is thus predicted to be possible only between Bracket Erasures

(6)     a) *[le-[[ímeʔ]-hu-ášaʔ-éːs]$_x$-i] vs. b) *[le-[[[[ímeʔ]-hu]-ášaʔ]-éːs]$_x$-i]

# 5 Conclusion

- PCAO exists

- there may be many more cases of e.g. stem-level PCAO effects which are obscured by later suffixes

- PCAO locality determined by Bracket Erasure and thus the number of cycles

# References

Bermúdez-Otero, Ricardo (2011): Cyclicity. *In:* M. van Oostendorp, C. Ewen, E. Hume and K. Rice, eds, *The Blackwell companion to phonology*. Vol. 4, Wiley-Blackwell, Malden, MA, pp. 2019–2048.

Jacobsen, William H. (1964): A grammar of the Washo language. PhD thesis, University of California, Berkeley.

Jacobsen, William H. (1973): A rhythmic principle in Washo morphotactics. Presentation at Symposium on California Indian Linguistics.

Kiparsky, Paul (1982): Lexical morphology and phonology. *In:* I.-S. Yang, ed., *Linguistics in the morning calm*. Hanshin, Seoul, pp. 3–91.

McCarthy, John J. and Alan Prince (1993): Generalized Alignment. *In:* G. E. Booij and J. van Marle, eds, *Yearbook of Morphology 1993*. Kluwer, Dordrecht, p. 79–153.

Paster, Mary (2006*a*): Phonological Conditions on Affixation. PhD thesis, University of California, Berkeley.

Paster, Mary (2006*b*): A survey of phonological affix order with special attention to Pulaar. *In:* L. Bateman and C. Ussery, eds, *Proceedings of NELS 35: Volume 2*. University of Massachusetts Graduate Linguistics Student Association, Amherst, p. 491–506.

Paster, Mary (2009): 'Explaining phonological conditions on affixation: Evidence from suppletive allomorphy and affix ordering', *Word Structure* **2**, 18–47.

Prince, Alan and Paul Smolensky (2004): *Optimality Theory: Constraint Interaction in Generative Grammar*. Blackwell, Oxford.

Ryan, Kevin M. (2010): 'Variable affix order: grammar and learning', *Language* **86**, 758–791.