A cyclic factorial typology of Pama-Nyungan stress

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I. Summary

• Question: what constraints evaluate accentual faithfulness?
• The empirical starting point: stress in Pintupi, Diyari, Dyirbal, and Warlpiri, four Pama-Nyungan (PN) languages where stress is identical in unsuffixed forms (see C₁ in §III). Suffixed forms diverge.
• Constraints used in earlier analyses: (a) foot-to-morpheme boundary alignment; (b) condition against feet straddling morphemes (Crowhurst 1994, Kager 1997); (c) base faithfulness; (d) Uniform Exponent (UE) (Kenstowicz 1998).
• Study of factorial typology of (a) and (b): Alderete (2009).
• This paper: analysis of PN stress using only asymmetric BD correspondence constraints, evaluated for each BD pair (Benua 1997). Factorial typology with this constraint set.
• The result: factorial typology with BD constraints makes accurately restrictive predictions. Conditions imposed on markedness relations (9v) help tighten typological predictions of the constraint set.

II. Proposal and constraint set

• The constraint set used in this study:
  - Markedness. STRESS, *CLASH, NONFINALITY, LAPSE@END, *EXTLAPSE (for foot-free analyses of stress, see Kager 2003, Gordon 2002).
  - Morphemic prominence: STRESS(U): all affixes have initial stress (Steriade 2013, see also Crowhurst 1994, Kager 1997).
  - Faithfulness. BD-STRESS (Benua 1997)
  - Base preference. CORRBC, CORRBS (Steriade & Yanovich 2013)
• Complex forms preferentially correspond with their local bases when CORRBC >> CORRBS (Warlpiri, Diyari). They preferentially correspond with their bare stems when CORRBS >> CORRBC (Dyirbal).
• Identity between a derivative and its base is regulated via BD-STRESS.

III. Factorial typology

• Factorial typology explored in three stages (‘cycles’) with OTSoft (Hayes et al. 2013)
• Transderivational dependency introduced by BD correspondence: phonology of complex words is evaluated with reference to the outcome of some previous evaluation.
• Languages have a single grammar for simple and complex words alike (Benua 1997), so fixed rankings must hold across cycles.

IV. Results: a first pass

• Cycle 1 generates only the monomorphic pattern found in Warlpiri (C₁ in §II).
• Cycle 2 generates ten patterns: three (A-C) are attested, the others (D-J) are not.

V. Visibility

• Summary: D-J are systematically missing in a survey of 23 relevant Australian languages.
• Unattested patterns are characterized by one or more of these constraint rankings: STRESS(μ) >> NONFINALITY; *EXTLAPSE >> NONFINALITY; STRESS(μ) >> *CLASH, STRESS(μ) >> STRESS(λ).
• What unites these unattested patterns: in each case, a constraint backed by evidence from frequent short forms (NONFINALITY; *CLASH, STRESS(μ)) is dominated by a constraint that lacks this evidence (STRESS(λ); *EXTLAPSE).

VI. Final results

• Implementing the set of fixed rankings in 5v eliminates D-J, and leads to an accurately restrictive predicted typology.

VII. Comparison with Alderete (2009)

• Alderete’s smallest typology ([R, S, G, R]) predicts 16 patterns with the C₁ pattern in §II. 12 are consistent with the VH.
• Comparison: Alderete’s typology predicts 12 systems, this typology predicts an equivalent 10. In both cases, all attested languages are predicted.
• An additional observation: The predicted-but-unattested systems are largely non-overlapping sets. All systems uniquely predicted by Alderete’s typology (5 in total) are ranking paradoxes for the BD constraint set.

Selected references