

Bidirectional Stress Systems

This paper addresses the proper treatment of bidirectional stress systems (recent work on which includes Kager 2001 and Alber 2005). Such systems appear to anchor a single binary foot at one edge of the prosodic word and to align all remaining feet towards the opposite edge.

- (1) a. (σσ)σ(σσ)(σσ) b. (σσ)(σσ)σ(σσ)

The result of this bidirectional orientation, as illustrated in (1), is that odd-parity forms have a lapse next to the stress of the isolated foot.

Though typological claims about bidirectional systems have been controversial, I argue that the evidence favors a characterization in terms of iambic-trochaic asymmetries (Kager 1993, Hayes 1995). Bidirectional systems are always trochaic, a situation best accounted for, I argue, when INITIAL GRIDMARK (Hyde 2002), a constraint that requires initial stress, and NONFINALITY (Prince and Smolensky 1993), a constraint that requires final stresslessness, are the only constraints that can introduce lapse in binary systems. To illustrate, since the trochaic bidirectional patterns (2a,b) always stress the initial syllable and leave the final syllable stressless – while perfect binary alternation either fails to stress the initial syllable (2c) or fails to leave the final syllable stressless (2d) – INITIAL GRIDMARK and NONFINALITY prefer the lapse configurations of trochaic bidirectional systems above systems with perfect binary alternation.

(2)

	σσσσσσσ	INITIAL GRIDMARK	NONFINALITY	PERF ALT
☞ a.	(σσ)σ(σσ)(σσ)			*
☞ b.	(σσ)(σσ)σ(σσ)			*
c.	σ(σσ)(σσ)(σσ)	*!		
d.	(σσ)(σσ)(σσ)(σ)		*!	
e.	(σσ)σ(σσ)(σσ)	*!	*!	*
f.	(σσ)(σσ)σ(σσ)	*!	*!	*

The demands of INITIAL GRIDMARK and NONFINALITY are incompatible, however, with the iambic bidirectional systems (2e, f). Iambic bidirectional systems violate both constraints since they always fail both to stress the initial syllable and to leave the final syllable stressless. Since INITIAL GRIDMARK and NONFINALITY are the only constraints that can promote systems with lapse at the expense of systems with perfect binary alternation in the proposed account, iambic bidirectional systems are harmonically bounded and absent from the predicted typology.

The proposed approach is a significant improvement over competing approaches. In particular, there have been two recent characterizations of the typology of bidirectional systems. Alber (2005) claims that isolated feet occur only at the prosodic word's right edge, and Kager (2001) claims that lapses only occur next to the primary stress. Multiple counterexamples, however, contradict both claims:

- (3) a. Indonesian (Cohn 1989) (àm)ri(kàni)(sási) 'Americanization'
 b. Norwegian (Lorentz 1996) (ùn:i)ver(sà:li)(té:t) 'universality'
 c. Garawa (Furby 1974) (ɲánki)ři(kĩřim)(pàya) 'fought with boomerangs'

The isolated feet at the left edge in all of the examples in (3) undermine Alber's claim, and the lapses at a distance from primary stress in (3a, b) undermine Kager's. In contrast, the generalization proposed here – that bidirectional systems are always trochaic – has no attested counterexamples, and it is consistent with observations about iambic-trochaic asymmetries in other types of systems. (*No* binary system that tolerates lapse, whether bidirectional or unidirectional, is found in mirror image trochaic and iambic versions (Hyde 2002).) This is the generalization, then, that must be accounted for. Kager's (2001) lapse licensing approach, however, allows iambic patterns as long as the lapse is adjacent to the primary stress, and Alber's (2005) asymmetrical alignment approach allows iambic patterns as long as the isolated foot occurs at the prosodic word's right edge. In either case, the results are unattested.

Although the class of bidirectional patterns is fairly small, it occupies an important position in current debates about the direction of metrical stress theory. Since bidirectional systems provide one of the sharpest areas of contrast among recent proposals, they give us a clearer indication of which direction to take.