

notion 'articulator' as used by phonologists corresponds in any useful way to a

[9] The theory proposed here also allows for complete vowel harmony, including [round], which crosses supralaryngeally articulated consonants, where the theory of Sterade (1987) would disallow such a rule. There do not seem to be any totally convincing cases of total vowel harmony crossing supralaryngeally articulated consonants from languages where [round] cannot be predicted on the basis of other features. However, in Yir Yoront (Alpher 1973: 103-104) there is a harmony rule totally assimilating a vowel to a following non-low vowel other than schwa, viz. /tɔi/ → /tɔi/ 'spearthrower', /tɔi/ → /tɔi/ 'spearthrower' (ERG), /gamur/ → /gamur/ 'armpit', /gamur-r/ → /gamur-r/ 'armpit'. The phonemic contrast between *o* and *a* would seem to preclude predicting [round] on the basis of [back]. However, it may be possible to reduce the underlying vowel inventory to /a e o u/ (in which case [round] becomes redundant), and derive all cases of *a* by later epenthesis.

[10] Obviously it is a matter of interest to know where in the feature hierarchy the vocalic feature [radical] would be assigned. There are virtually no data from phonological alternations which suggest where this feature is placed, and certainly none which unambiguously answers this question. The description of Udi in Pančviž & Džetranšviž (1967) does provide some examples of alternation between pharyngeal and plain vowels. The following alternations are relevant:

(i) sa	'1	p a	'2
sa-c'e'e	'11	p a-c'e'e	'12
(ii) xib-qo'	'60	p a-qo'	'40
sa-qo-vic'	'30	p a-qo-vic'	'50
xib-qo-vic'	'70	bip-qo-vic'	'90

In the first case, *p'a* loses its pharyngealisation before the ejective of the 'decades' suffix -c'e'e. In the second set of data, the 'twenties' suffix -qo loses its pharyngealisation before the suffix -vic', unless also preceded by an ejective consonant. No other relevant data are available, and the source does not state what principle governs these alternations. However, if pharyngealisation in Udi is governed by a laryngeal feature, perhaps [+constricted glottis], these distinctions are not totally surprising. Given the extremely limited data available, we will leave this question open, pending the discovery of some evidence bearing on the question.

[11] Prehnai *ε* does not reduce to *a* in these examples because the personal ending is vowel-initial: cf. *tol-am* 'I come', *tol-ana* 'we stand'. Reduction of vowels to *a* only takes place before consonant-initial affixes.

[12] This proposal is at odds with the argument advanced in Sterade (1987) that laryngeal consonants lack place features entirely. One possibility is that laryngeals may, on a language-specific basis, be specified as completely place-less, or may have a specification for [low]. Both patterns of behaviour seem undeniable - laryngeals may be selected as the only transparent consonants for some vocalic process, yet may also act as a natural class with other [+low] segments. One would expect that both patterns of behaviour would not be found in a single language - but see McCCarthy (1989) for discussion of South Arabic vocalic harmony, which seems to defy that expectation.

[13] The harmony is not total, since vowel height is not spread. However, when the stem vowel is non-high, the vowel of the reduplicative assimilates to the non-roundness from the stem-initial consonant. The consonantly induced complications do not affect these forms.

[14] The stem-medial non-low vowels may also be underlyingly totally unspecified for vowel height features. We would then assume that by default rules, they are assigned the value [+high, +ATR]. Whether the phonetic vowels *i* and *u* have underlying values of [high] and [ATR], the crucial point that both [-ATR] and [-high] spread remains valid.

ing principle behind vowel distinction between features could predict precisely this own, one cannot determine features solely on the basis of phonetic principles which must be made on empirical rules themselves.

at the Winter LSA meeting in to thank Jill Beckman, Nick Selkirk and Robert Vago for rule of Terena, which spreads erbs inflected for 1st person use'. This would seem to be a justly; however, all nasalised vowels voicing of the nasalised ob-

eral statement of the features may given here, which appears drawn from Sagey (1986: 27). ing all place features and their display on the basis of her [ATR] is to be assigned, and sd under the velar node.

th harmonises completely with ed as having a vowel nucleus tures then arise by spreading

ies of total vowel assimilation us appear that the form *mo-* spreading of [round] along terrace's prediction. Since the of the feature [round] can be features [back] and [low]. therefore have to come from

overlaid - see Iverson (1989), whatever node is assumed to express the notion of vowel | by the Vowel Height node. n is borne out.

etic theory, what an 'articulator' is far from certain that the