Two arguments in defense of allomorphy as phonological optimization

The controversy. Several researchers (Mester 1994, Kager 1996, Mascaró 1996a,b, *etc.*) have proposed that suppletive allmorphy conditioned by the phonological context is due to optimization in the phonology (as in (1)). Recently, however, Paster (2005, 2006, to appear) and Bye (2006) have questioned this position, arguing instead that all suppletion occurs in the morphology, and that competing allomorphs can arbitrarily subcategorize for phonological properties of their bases. In this talk I present two arguments in favor of the optimization approach, as compared with the subcategorization approach. ***Argument 1: Conspiracies***. Many instances are reported (Kiparsky 1972 *et seq.*) where the phonological conditions on allomorph selection duplicate the alternations and/or static phonotactics of the same language in avoiding some marked structure. Such cases argue for putting allomorph selection in the phonology so that a single markedness constraint can drive both the allomorphy and the "real" phonology. Examples include: ***(a)*** In Kɔnni (Cahill 2007) there are five noun classes, and stems whose rightmost consonant is /ɾ/ are never assigned to class 1—the only class which includes a /ɾ/-initial suffix (the sing.def /-ɾÍ/: see (2)). In addition, there are a number of "mixed" nouns which combine suffixes from different noun classes, but there are no /ɾ/-final "mixed" stems which take /-ɾÍ/ in the sing.def. This pattern of allomorphy conspires with several other features of the language: first, [ɾɾ] and [ɾVɾ] sequences never occur in any context in Kɔnni, implying a phonotactic constraint against them. Second, the agentive suffix, normally [-ɾÚ], surfaces as [-tÚ] with stems that have [ɾ] as the rightmost consonant (see (3)). The masculine suffix shows a similar alternation between [-ɾaːŋ] and [-daːŋ] (see (4)). ***(b)*** In Tsuut'ina (aka Sarcee), there are four prefixes (see (5)) which are normally omitted in certain morphosyntactic contexts (see (6)). However, these prefixes *do* surface in those same contexts if omitting them would result in the absence of any syllabic nuclei in the prefix string (see (7)). In words where the inflectional features of these four prefixes aren't present, [i] is epenthesized if there would otherwise be no vowels before the root (see (8)). As noted by Cook (1971), this represents a clear case of a conspiracy between prefix allomorphy and a phonological process. ***(c)*** In Halq'emélem (Urbanczyk 1998), the continuative is marked by CV- reduplication with bases which begin in a single C and a stressed non-schwa vowel; in this case the reduplicant V gets stress and the first stem V reduces to schwa (see (9)). An exception occurs when the initial C of the base is a glottal. In that case, the continuative is marked by lengthening of the first vowel of the base. Reduplication with these bases would yield a word-medial [ʔə] syllable, but [ʔə] is never found in Halq'emélem except PWd-initially. Allomorph selection thus conspires with the language's phonotactics. ***Argument 2: Negative generalizations***. In many cases, an affix will be avoided with bases that begin/end in the same segment that the affix ends/begins with, for example Kɔnni /-ɾÍ/ or English *–less*, *-ly* (Martin 2007). In a markedness account, this can be attributed to OCP or *GEMINATE constraints. But in a subcategorization framework, an affix like /-ɾÍ/ would have to subcategorize for bases ending in 'something besides /ɾ/', which is not a natural class. The pertinent generalization is which bases an affix *avoids*, not which ones it subcategorizes *for*, and markedness constraints, unlike subcategorization frames, are perfectly suited for expressing negative generalizations.

(1) *Moroccan Arabic: 3rd masc. sg. allomorph selection in 'his error' vs. 'his book'*

/xtˤa – {h, u}/		ONSET	NO CODA	/ktab – {h, u}/		ONSET	NO CODA
Inputs:	*Outputs:*			*Inputs:*	*Outputs:*		
/xtˤa-h/	☞ [xtˤah]		$_1$	/ktab-u/	☞ [kta.bu]		
/xtˤa-u/	[xtˤa.u]	W_1	L	/ktab-h/	[ktabh]		W_1

(2) *Kɔnni noun class suffixes*

	Class 1	Class 2	Class 3	Class 4	Class 5
Singular	-ŋ́	-ŋ́	-ŋ́	-ŋ́	Ø
Singular definite	-ɾÍ	-kÚ	-kÁ	-bÚ	-wÁ
Plural	-A	-tÍ	-sÍ	-tÍ	(irregular)
Plural definite	-A-hÁ	-tÍ-tÍ	-sÍ-sÍ	-tÍ-tÍ	(irregular)
% of nouns	26	12	31	7	13

(3) [dì-dàː-ɾʊ́] 'buyer' [gbì-gbàɾì-tʊ́] 'watcher'
(4) [kpá-ˡɾáŋ] 'male guinea fowl' [gàŋìàrà-dàáŋ] 'male weaver bird'
(5) /mi/ 3rd person singular direct object, /ni/2nd person singular subject, /ni/ terminative, /si/ perfective

(6) *terminative /ni/normally omitted with 3rd persons subject*
a. tì-nī-s-ná theme-terminative-1sg.subj-√move.camp 'I will move camp'
b. tì-∅-ná theme-3sg.def.subj-√move.camp 'He will move camp'

(7) a. nī-s-nà terminative-1sg.subj-√travel 'I have finished travelling'
b. ní-∅-na terminative-3sg.def.subj-√travel 'He has finished traveling'

(8) /∅-zí/ 3sg.def.subj-√be.numb ⟶ ì.zí 'it will be numb'

(9) [tʼíːləm] 'sing' [tʼí-tʼələm] 'singing'
(10) [ʔíməx] 'walk' [ʔíːməx] 'walking'

Selected references. Cahill, Michael C. (2007). *Aspects of the Morphology and Phonology of Kɔnni*. Dallas: Summer Institute of Linguistics. • Cook, Eung-Do (1971). Phonological constraint and syntactic rule. *Linguistic Inquiry* **2**, pp. 465-478. • Kiparsky, Paul (1972). Explanation in phonology. In Stanley Peters (ed.), *Goals of Linguistic Theory*. Englewood Cliffs, NJ: Prentice-Hall, pp. 189-227. • Martin, Andrew (2007). *The Evolving Lexicon*. Ph.D. dissertation, UCLA. • Urbanczyk, Suzanne (1998). A-templatic reduplication in Halq'eméylem. *WCCFL 17*, pp. 655-669.