Weak and semi-weak phonological positions

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1. Weak vs. semi-weak positions

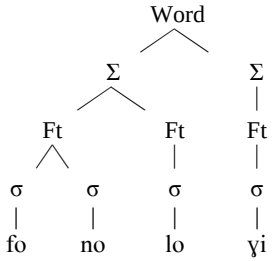
Terminology introduced for Dutch by van Oostendorp (2000: 147-8): full vowel ~ schwa alternation in stressless position (basically free variation, style registers): 2 types of unstressed position: 'weak' and 'semi-weak'
e.g.:

(1) *fonologie* 'phonology'
very formal: [ˌfonoloˈɣi]
less formal: [ˌfonəloˈɣi]
even less formal: [ˌfonələˈɣi]
but: * [ˌfonoləˈɣi]

lo is more resistant to reduction: it is in semi-weak position

analysis: foot structure (Σ=superfoot): Figure (17) on p.148:

(2)



(OT: two constraints: no reduction if head of foot >> no reduction if head of branching foot)

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2. Weak and semi-weak positions in lenition in English

2.1. Harris and Kaye (1990: 261)

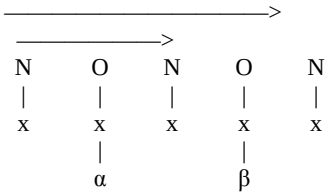
t̲-lenition in New York English (tapping) and London (glottalisation): two successive potential lenition sites, e.g.

(3) *competitive*:
compe[t]i[t]ive
compe[ʔ]i[t]ive
compe[ʔ]i[ʔ]ive
*compe[t]i[ʔ]ive

(parallel results obtained for tapping in NYC)
(Harris and Kaye: "a 'chain' of reduction" - ??)

government:

(4)



The data can be reinterpreted as weak vs. semi-weak: stronger tendency to lenite in weak position (*compét̲itive*), semi-weak (*compétit̲ive*) more resistant to reduction.

2.2. Difference between post-tonic and later positions

Native intuition: t̲ immediately following the stressed vowel (e.g. *Italy*) *must* be a flap, later t̲ (e.g. *sanity*) *may* be a flap – for these speakers, this is a difference between weak and semi-weak positions: later t̲ is in semi-weak position, more resistant to reduction

e.g., Hooper (1978): only post-tonic consonants are ambisyllabic, reflected by the fact that only such t̲'s are flapped (as in *kitty*) as opposed to intervocalic consonants not preceded by the stressed vowel (as in *serenity*, which contains an aspirated /t/ for Hooper)

others: in words like *capácity* or *éditor* aspiration is more acceptable than in *átom* or *glítter* (e.g. Selkirk 1982, Kreidler 1989: 110-111, Kenstowicz 1994: 69, Vaux 2002 and references therein)

Kahn (1976/1980: 165 fn.17):

> In some words which appear to be entirely on a par structurally with words like capital, failure to tap is not quite serious an affront to the American ear as the absence of flap usually is. Compare better, capital with marital. Even in the case of the latter word, however, /D/ is preferred greatly.

whereas

> [in immediate post-tonic position] as in better, unflapped /t/ is unnatural even in very careful speech (ibid: 94)

-> free variation, but no such variation is found in the weak position

2.3. The 'Withgott effect'

2.3.1. Withgott (1983): tap suppression in certain positions:

(5)	flapped t	aspirated t
	capitalístic	*militarístic*
		sanitisátion
		monotonícity

cf. *capital* vs. *military*, *sanitize*, *monotone*: untapped t in the derivative where untapped t in the base due to stress on the syllable whose onset the t is
but: cyclic analysis is not appropriate since aspiration (instead of lenition) in *Meditérránean, Winnipesáukee, Navratilóva, abracadábra*, which are morphologically simple: adjunction of stray syllables: first stray syllable to the left, second to the right: (abra)(ca(dabra)) etc.

Jensen (2000): cyclic analysis:

	capitalistic	militaristic
1st cycle	(capital)istic	(mili)(tary)stic
2nd cycle	(capita)(listic)	(mili)(ta(ristic))
	the /t/ is foot-internal in both cases	the /t/ is foot-initial in both cases

2.3.2. Steriade (2000: 322-6):

paradigm uniformity (PU) conditions: promote invariance of some sound property within a given paradigm:

(6) Paradigm Uniformity

> All surface realizations of μ, where μ is the morpheme shared by the members of paradigm x, must have identical values for property P. (Steriade 2000: 313)

tap suppression in *militaristic* is a PU effect

the Withgott-effect is systematic, survey:

(7) a. Bases: *positive, primitive, relative, negative, voluntary*
Derivatives: *positivistic, primitivistic, relativistic, negativistic, voluntaristic*

b. Bases: *rotary, fatal, fetish, totem, notary*
Derivatives: *rotaristic, fatalistic, fetishistic, totemistic, notaristic*

Mediterranean: orthographic geminate 'rr' interpreted by speakers as an indication of secondary stress on the preceding vowel ((Withgott's other examples??))

endnote 4: tap suppression does not obtain in syllables that directly follow the tonic: *statístic – statistícian*; generally, very few instances of non-tapped t's in the post-tonic position:

> [...] constraints that induce tapping are more stringent (i.e. more highly ranked) in the immediate post-stress position than elsewhere. PU effects surface only when the tapping constraint is weaker.

That is, examples of tap suppression (whether or not they are manifestations of PU effects) are only found in semi-weak position, irrespective of morphological structure.

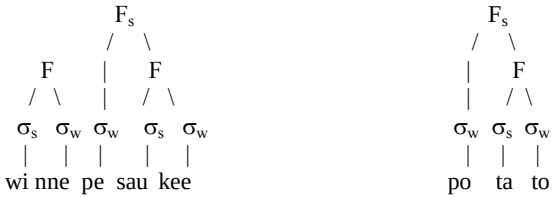
2.3.3. Davis (2003): asymmetry between final and nonfinal dactyls

?? cf. Section 2.2 above

2.3.4. Foot-based analyses

Davis (2005): PU revisited: tapping in *capitalistic* is a PU effect (PU with *capital*)

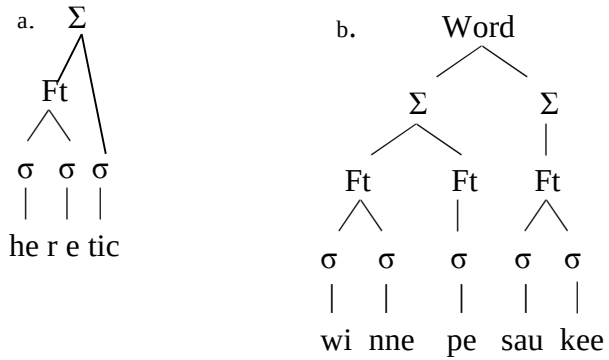
(8) a. *Winnepesáukee* b. *potáto*



Anderson and Ewen (1987: 83): a similar superfoot-structure for words like *hére<u>t</u>ic, aríthme<u>t</u>ic*

(9) $_2[\ _1[[he[r]e]]_1\ [tic]]_2$

(10)



-> a foot-based analysis is inadequate to account for the asymmetry between weak and semiweak positions on the one hand, and for the symmetry between final and nonfinal dactyls on the other. If one gets rid of ambisyllabicity as a theoretical device, neither possible adjunction analyses are fully satisfactory: they either predict the same amount of aspiration in *Winne<u>p</u>esaukee* as in *<u>p</u>otato* and/or *hesi<u>t</u>ate*, or they allow for a reduced vowel in a monosyllabic foot

3. Weak and semi-weak positions in vowel reduction and schwa syncope?

3.1. Burzio (1994: 113, footnote 14 – also cited in van Oostendorp 2000)

In English, foot-medial open syllables: affected by reduction to a greater extent than foot-final syllables:
Ta<u>t</u>amagouchi (tætəma)gouchi preferable to *(tætaməˑ)gouchi*

analogously: *(rigama)role, (panama)*

(if *panama* is analogous to *Tatamagouchi*, then this is additional evidence of the absence of asymmetry between word-internal and final dactyls, argued for above)

That is, in semi-weak position vowels are more resistant to reduction.

Burzio (ibid.): syncope: *memorization*: *(mem'ri)zation*, not * *(memor')zation*

3.2. Another look at syncope

Memorization is not a good example since:
- the segmental context (*r_z*) doesn't support the deletion of the second schwa,
- no word-internal pre-tonic syncope.

My survey using EPD*, LPD, and native informants:
- too few examples of words containing a sequence of two unstressed (therefore syncopatable) vowels in the right segmental context (i.e., C<u>v</u>S_1<u>v</u>S_2v, where C is less sonorous than S_1, which is in turn less sonorous than S_2; S=sonorant consonant) (not much more than 60 words)
- the majority of this small sample consists of derived words – see PU effects below
- application of syncope is heavily influenced by word frequency: less frequent words strongly resist it, and natives are unable to judge nonsense words
- still, there remain a few examples in which the weak-semiweak distinction is able to manifest itself in spite of the morphological pressure, e.g. *confectionery* and *functionary* (-ʃnəri more frequent than -ʃənri)

PU effects in English vowel syncope: syllable peaks are preserved in the derivatives, e.g.:

national	ˈnæʃnəl
nationally	ˈnæʃnəl|i
	*/? ˈnæʃənl|i

... and all the *–ly* words that I have information about.

caution	ˈkɔːʃən
cautionary	ˈkɔːʃən|ri
	*/? ˈkɔːʃn|əri

... and the great majority of *–ary* words that I have information about.

(Note. The option of syllabic consonant formation is ignored.)

* Thanks to Péter Szigetvári for making it available for online browsing.

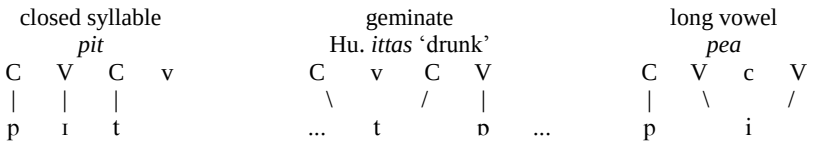
4. Conclusion

The distinction between weak and semi-weak phonological positions seems to be justified in English, too.

5. Analysis

Strict CV Phonology (Lowenstamm 1996, Lowenstamm 1999, Scheer 2004, Ségéral and Scheer 1999, Szigetvári 1999, etc.):

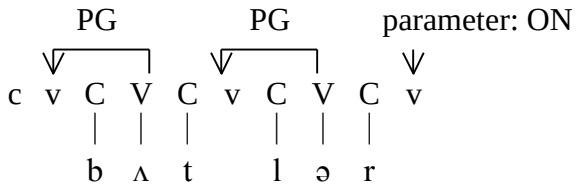
(11)



(12)

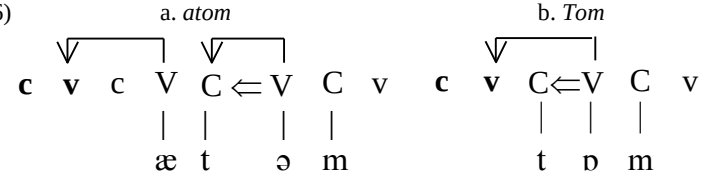
(13) The phonological ECP (simplified)
An empty nuclear position is licensed to remain unpronounced if one of the following holds:
(a) it is properly governed; or
(b) it is parametrically licensed domain-finally.

(14)



(15) a. Proper Government inhibits segmental expression of its target.
b. Licensing comforts segmental expression of its target.
(Ségéral and Scheer 1999: 20)

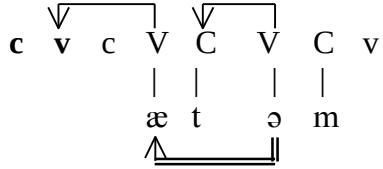
(16)



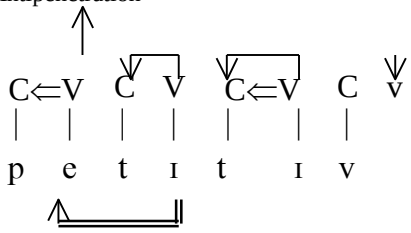
(17) The Antipenetration Constraint
Government cannot penetrate a stress domain. (Szigetvári 1999: 79)

proposal: a stressed vowel
(i) falls under the rubric of the Antipenetration Constraint;
(ii) resists the Proper Government emanating from a following filled vowel, and instead
(iii) distracts the licensing charge of the following vowel

(18) *atom*



(19) (*com)petitive*
"Antipenetration"



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