MELODY-CONDITIONED ALLOMORPHY AND SCRAMBLING

1. Phonologically conditioned allomorphy (PCA) and its relevance for the architecture of grammar

(1) PCA used as an anti-modularity argument
   a. Phonologically conditioned allomorphy (PCA) is used in the OT literature in order to argue against a modular setup of grammar, which holds that phonology and morphology (or morpho-syntax) instantiate two distinct computational systems. McCarthy (2002: 154f)
   b. If phonological properties are used to determine which allomorph is selected, goes the argument, the scrambling of morpho-phonological properties in one and the same computational system, as is common practice in OT, is unavoidable.
   c. non-modular scrambling versions of OT also include Burzio (2007), Wolf (2008)

(2) Phonology-free syntax
   b. literature challenging the invisibility of phonological properties for morpho-syntax:
   c. empirical generalization
      1. the counter-examples share the fact that the phonological property conditioning morpho-syntactic computation is located at or above the skeleton.
      2. intonation
         stress
         tree-geometric properties of the prosodic constituency
         size of lexical items (minimal word constraints)
         rhythm
         tone
   d. But everybody agrees with Zwicky and Pullum's (1986) original observation that melodic properties of sound never affect a syntactic derivation.
      Vogel & Kenesei (1990: 346) as well as Inkelas & Zec (1990: 366, 1995: 547) for example are explicit on this. That is, nobody has ever seen anything like "verbs that begin with a dental are raising verbs".

(3) prediction regarding PCA
   a. there is PCA conditioned by phonological properties at and above the skeleton. These are visible upon allomorph selection (which is done in the morphology).
   b. melody-sensitive PCA does not exist.

(4) Melody-free syntax
   Scheer (2011: §412, 2015, 2016)
   a. is the correct generalization
   b. concatenative computation of any kind, i.e. morphological and syntactic alike,
      1. is blind to melody
      2. may be conditioned by non-melodic phonological information
   c. melody
      is what occurs below the skeleton. Non-melody is what occurs at and above the skeleton.

(5) modularity and domain specificity
   a. domain specificity in Cognitive Science is a major property of modular theory e.g. Segal (1996), Carruthers (2006).
   b. the input to every computational system is specific to this system and cannot be parsed by other systems: => proprietary alphabets / vocabulary.
   c. Communication among modules then requires translation from one vocabulary set into another.
   d. Therefore labial, occlusion and so forth is not anything that morphological computation could make sense of.

(6) melody vs. structure
   a. on modular standards
      1. the input to (modular) computation are vocabulary items
      2. the output is structure.
   b. syntax
      input: features (number, person, gender, case, animacy etc.)
      computation: Merge (internal and external) output: trees
   c. phonology
      input: 1) linear order of segments and 2) their sonority
      computation: syllabification algorithm output: syllable structure
   d. generalization
      all items that occur at and above the skeleton are the result of phonological computation: syllable structure, metrical structure etc.
      => they are structure, not melodic items
(6) melody vs. structure
e. labels
  1. syntax: the output of computation inherits the label of the input:
     the merger of A and B produces [AB] in case A is the head, and [AB]o if the
     whole is B-headed.
  2. phonology: the output of computation does NOT inherit any labels of the input
     - onsets, nuclei etc. are not projections of "labial", "occlusion" etc.
     - neither metrical structure (grids, feet, intonation phrases etc.)
  3. ==> phonological computation does not project labels, i.e. melodic properties.

f. hint at why there is this fundamental distinction between morpho-syntactic and
   phonological computation: because the latter does not build any trees.
   Scheer (2013)

(7) non-melodic PCA does not violate modularity
a. phonological structure is a legitimate input to morpho-syntactic computation
b. because it does not contain any phonological vocabulary items:
   1. it is not a piece of melody in itself
   2. it does not bear any traces of melody (labels)
c. recall that domain specificity
   prohibits the input of foreign vocabulary items to a given computational system.

(8) conclusion of all this:
 the tables have been turned
a. PCA is supposed to be an argument against modularity
   ==> now PCA is an argument in favour of modularity and against scrambling
   approaches.
b. if melody-free syntax is correct,
   hence if PCA is never melody-driven,
   scrambling approaches that have phonology and morphology done in the same
   computational system overgenerate:
   1. they predict that ALL phonological information is permanently available for
      (morphological) allomorph selection.
   2. but if a subset of phonological information, i.e. melodic properties, turn out to
      never condition PCA, they overgenerate.
c. melody-free syntax
   on the other hand predicts melody-free allomorphy because of modular principles:
   1. non-melody is available upon morphological allomorph selection
   2. melody is not.

(9) approaches concerned
a. all regular scrambling models
   typical OT (to avoid "mainstream": e.g. McCarthy (2002: 154f)

b. Multiple inputs
   1. advocated in much of the OT literature on allomorphy
      and work affiliated e.g. by Kager (1996), Lapointe (1999), Mascaró (1996, 2007)
      and Tranel (1996)

(10) workings of multiple inputs
a. optimizing PCA
   1. pure matter of phonology
   2. there are two distinct lexical recordings
   3. but no allomorph selection takes place in morphology: they are told apart by
      purely phonological computation.
   4. example: Basque derivational suffix -dar /-tar
      - underlying form of the suffix: [/{-tar, -dar}/]
      - when concatenated to a root: /Eibar-{-tar, -dar}/
      - both items contained in angled brackets are submitted to GEN
      - GEN produces candidates Eibar-tar and Eibar-dar
      ==> allomorph selection done in the phonology
b. non-optimizing PCA
   regular allomorph selection in morphology: no multiple inputs here.
c. optimizing PCA = multiple inputs
   1. will never produce counter-examples to melody-free syntax because it does not
      involve any morphological allomorph selection in the first place.
   2. but it conflicts with Melody-free Syntax
      If the empirical generalization that allomorphy is never conditioned by melody is
      true, then the patterns that Mascaró (2007) takes to be cases of allomorphy
      cannot be allomorphy.
      That is, they must have a single underlier.
      ==> discussion is open, see below.
d. non-optimizing PCA = regular allomorph selection
   in this subset of PCA, there are no multiple inputs and everything is just like in all
   other scrambling approaches: ALL phonological information is predicted to be
   available upon allomorph selection.
   ==> overgeneration.

(11) remainder of the talk
   study the empirical record to show that
   there is no such thing as melody-conditioned PCA

2. Preliminary: sonority is not melody

a. traditional approach
   1. sonority is given a melodic identity in terms of primes
   2. major categories (glides, nasals, liquids, fricatives and stops) are defined by
      binary features such as [±son] or [±cons], which are not any different form
      [±labial] etc.
   3. ==> sonority is a piece of phonological vocabulary.

b. Multiple inputs
   1. advocated in much of the OT literature on allomorphy
      and work affiliated e.g. by Kager (1996), Lapointe (1999), Mascaró (1996, 2007)
      and Tranel (1996)

(12) approaches concerned
a. all regular scrambling models
   typical OT (to avoid "mainstream": e.g. McCarthy (2002: 154f)
(12) sonority
b. Government Phonology
   1. unary primes: I, A, U
   2. there is no specific prime for sonority
   3. sonority is a function of complexity (Harris & Lindsey 1995)
   4. \[ \text{sonority is not a piece of phonological vocabulary} \]

(13) sonority does not behave as melody I
a. sonority is projected above the skeleton: it may be read off syllable structure.
   b. branching onset
      1. its existence allows us to predict the relative sonority of the segments is hosts.
      2. it does not allow us to make any prediction concerning the labial, dorsal, nasal, laryngeal properties of the segments involved.

(14) sonority does not behave as melody II
a. stress algorithms may be sensitive to sonority
b. Weight-by-Position (Hayes 1989)
   stress placement according to syllable structure.
   Syllable heavy when closed (light when open).
c. but there is fine-tuning of Weight-by-Position
   1. in some languages sonorant, but not obstruent codas contribute to the weight of their syllable.
   2. documented cases of this pattern are found in native American Wakashan languages (e.g. Wilson 1986, Zec 1995: 103ff, Szigetvári & Scheer 2005: 44ff).
d. nothing of the kind for place, nasality, laryngeal features
   no case on record such as “a coda is heavy only if it is labial”.

(15) stress and vocalic sonority
a. on the vocalic side, de Lacy (2002) and Gordon (2006: 52) have established the same generalisation, which is also based on broad cross-linguistic evidence.
b. In many languages stress placement is sensitive to the sonority of vowels (low, mid, high), but de Lacy wonders why no other property ever seems to play a role:
c. “One issue this typology raises is not why stress is sensitive to sonority, but rather why it is not sensitive to so many other properties. There are no stress systems in which subsegmental features such as Place of Articulation or backness in vowels plays a role in assigning stress. The same goes for features such as [round], [nasal], and secondary articulation.” de Lacy (2002: 93).

(16) conclusion
a. sonority is an outlier among properties that are traditionally viewed as subskeletal.
b. sonority is not a melodic property of sound; it does not behave as such.
c. of all properties that are traditionally accommodated below the skeleton, sonority is the only one that is pervasively visible from above, i.e. by operations that are carried out above the skeleton (stress placement)

3. Typology of PCA
(17) typological studies surveys of PCA
   1. survey of about 600 languages
   2. 137 cases of PCA in 67 languages described.
   3. chapter 2 is about segmentally conditioned PCA, chapter 3 is concerned with tone- and stress-conditioned PCA, while chapter 4 reviews prosodically conditioned PCA.
   4. chapter 2: 72 cases of PCA from 32 different languages.
b. Nevins’ (2011) Handbook article about PCA.
c. other sources

(18) general landscape
a. tone, stress, intonation-driven PCA
   1. very large group
   2. conditioning factors all reside above the skeleton: ok with Melody-free Syntax.
b. C vs. V conditioning
   1. large group
   2. example
      Moroccan Arabic: the 3sg masculine object/possessor clitic is -h after V-final, but -u after C-final stems.
   3. ok with Melody-free syntax: the relevant information is encoded above the skeleton (syllable structure).
   4. examples under (19)
c. sonority-based
   1. ok with Melody-free syntax: sonority is not a piece of melody.
   2. examples under (20)
d. a residue of cases that appear to be melody-driven
   list under (26)

(19) PCA #1
C vs. V conditioning
a. Yidi (Pama-Nyungan, Australia)
   -la after V-final stems, -da after C-final stems
b. Korean
   -wu after V-final stems, -ku after C-final stems
c. Moroccan Arabic
   3sg masculine object/possessor clitic: -h after V-final, -u after C-final stems
d. Tzeltal (Mayan, Mexico)
   2sg aw- before V-initial stems, a- before C-initial stems
   [more of the same with 1sg and 3sg]
e. Modern Western Armenian
   -n after V-final, -ə after C-final stems
f. Warrgamay (Pama-Nyungan, Australia)
   ergative -nga after V-final, -du after C-final stems
g. Midob (Nubian, Sudan)
   -non- before V-initial, -no- before C-initial suffixes
(19) PCA #1
C vs. V conditioning
h. Kashaya (Pomoan, Northern California)
-cin’ after V-final monosyllabic stems, -men’ after other V-final stems; -an’ after C-final stems
i. Biak (West New Guinean, New Guinea)
2sg prefix wa- with CC-initial stems, infix -w- otherwise
j. Korean
accusative -rɨl after Vs, -ɨl after Cs
k. Dja:bugay (Pama-Nyungan, Australia)
genitive -n after V-final, -ŋum after C-final stems
l. Dakota (Siouan, Northern USA)
1du/pl u- before C-initial, uk- before V-initial stems
m. Russian
reflexive -sja after Cs, -sj after Vs

(20) PCA #2
sonority-based conditioning
a. Kwamera (Central-Eastern Oceanic)
prefixive ɨn- before stems beginning with non-high initial vowels, ɨv- before consonant-initial stems and stems that begin with a high vowel.

b. Martuthunira (Pama-Nyungan, Australia)
genitive -ks after nasals, -yu after laterals or rhotics (no other Cs available in this position).

c. Nishnaabemwin (Algonquian, Ontario)
conjunct order 3rd -g after nasal-final stems, -d elsewhere. No evidence for a d → g process in the language, which does feature nd clusters (including word-finally).

4. Beware of analysis

(21) analysis
a. allomorphy is not an observational fact: it needs to be established by analysis, and there may be competing accounts that are non-allomorph.
b. consider these cases
1. Sibe variety of Manchu (Tungusic, China)
uvular-initial suffixes -χ after stems with a low vowel, velar-initial suffixes -x after stems without a low vowel.
   ==> assimilation
2. Tahitian
causative/factive marker ha’ar- before labial-initial roots, ḥa’ar- elsewhere
   ==> dissimilation
3. Basque
postnasal voicing of voiceless obstruents in a subset of affixes: e.g. derivational suffix -dar after nasal-final stems, -tar elsewhere.
   ==> postnasal voicing

(22) Sibe
a. lends itself to an assimilation analysis
b. uvulars (but not velars) are known to pattern with gutturals, which in turn are sensitive to lowness (e.g. McCarthy 1991).
c. Hence the single underlier /-x/ is turned into the uvular -χ when the stem contains a low vowel, which spreads its lowness onto the suffix.
d. Under this analysis, there is no allomorphy: the alternation is the result of a purely phonological process based on one single underlier.

(23) Tahitian
a. plausible instance of dissimilation
b. the initial labial of the single underlier /fa’a-/ cannot occur before stem-initial labials.
c. Its dissimilation proceeds via lenition: f → h is a well-known lenition trajectory (e.g. Harris and Lindsey 1995: 71).
d. Hence there is a single underlier, and all processes involved are purely phonological: dissimilation as much as the derivation of the alternative segment (f → h).

(24) PCA may be reduced to a single underlier iff
a. the trigger is phonological.
   Tahitian: dissimilation, i.e. prefix- and stem-initial consonants must not both be labials.
b. there is a plausible phonological pathway from the illegal to the legal alternant.
   Tahitian: f → h is a well-known lenition trajectory. That is, dissimilation is realized by lenition.

(25) cases of what looks like melodically-driven PCA
a. phonological trigger, but no plausible phonological pathway from the illegal to the legal alternant
b. dissimilation
1. all cases in point that I could identify are either due to - similarity avoidance (dissimilation) or to - harmonic incompatibility (vowel harmony).
2. Nevins (2011: 2360) also notes the ubiquity of triggering dissimilation in melodically conditioned PCA.
c. encouraging
1. all cases of what looks like melody-driven PCA seem to involve a phonological trigger.
2. This does not follow from anything: there could well be a melodic condition on allomorphy that follows a purely morphological rationale.
3. ==> one of the two conditions for reducing the patterns to a single underlier is fulfilled.

5. The tough cases
(26) PCA #4
phonological trigger, but no pathway from the illegal to the legal alternant
[a-d from Paster (2006), e-g from Nevin (2011: 2359ff), d from Bonet & Mascaro (2006)]
a. Caddo (Caddoan, Oklahoma)
   simple future -ʔaʔ, but -waʔ after ʔ-final stems
b. Hungarian
   present tense indef. 2sg -s, but -El after sibilant-final stems (where E is a
   harmonizing vowel)
c. Hungarian
   3sg, 2pl, 3pl indicative definite present tense
   -i after front stems, -ja after back stems.
d. Yucunany Mixtepec Mixtec (Otomanguean, Mexico)
   3sg familiar -a after i-final, -i elsewhere (all stems are V-final). Hence kūʾū
   "woman's sister" - kūʾ-i "her sister", but sūli "leg" - sūli-ʔ-a "his leg"
e. conjunctions "and" and "or" in Spanish
   "and"; i everywhere except before words that begin with i, where e is observed
   (María y Pedro "Maria and Pedro", but María e Ignacio "Maria and Ingnacio").
f. Catalan
   masculine marker zero (for a given noun class) except before plural -s when the
   stem ends in -t, in which case -ur appears: gɔt - gɔt-s "glasses sg., pl.", but gos
   -gos-ur-s "dog sg., pl.".
g. Dutch
   the agentive suffix is -er [-xr] everywhere except after stems whose last vowel is
   schwa, in which case -aar is found: dans-[-xr] "dancer", but wand[-xr]-aar
   "walker".
h. Udihe (Southern Tungus, Far East Siberian)
   the perfective marker laryngealizes stem-final vowels (creaky voice), except when
   these are high, in which case -ge is suffixed. In Udihe, high vowels cannot be
   laryngealized (all other vowels afford contrastive laryngealization).

6. The floating segment analysis

(27) Caddo example (26a)
a. Caddo (Caddoan, Oklahoma)
   simple future -ʔaʔ, but -waʔ after ʔ-final stems
b. phonological vs. morphological encoding of
   1. alternants whose relationship is arbitrary
   2. their general vs. specific character
c. morphological
   simple future ↔ -ʔaʔ general
   ↔ -waʔ / ʔ-___ specific / rescue
   phonological
   x x x
   | | | 8 8 a

(28) suspicious similarity of supposedly unrelated alternants
a. In the case of Caddo (but which is quite frequent), the single underlier analysis
   explains the fact that only one segment of the three-segment affix shows arbitrary
   variation, the other two segments being stable.
b. When two distinct lexical recordings are assumed as under (27)c, this fact begs the
   question: it is not really plausible that the two lexical items, which are supposed to
   be arbitrarily chosen, are accidentally identical for two thirds of their body.
c. The standard reaction is to invoke a diachronic development based on a single
   ancestor.

(29) floating segment analysis
a. a single-underlier, phenomenon-unspecific alternative to allomorph selection of
   alleged melody-sensitive PCA
b. where α alternates with β and the relationship between both is arbitrary
   lexical situation
   lexically associated item illegal for phonological reasons: α
   cannot remain associated to its constituent
   x
   α β α β

(30) claim
a. the floating segment analysis may be applied to all cases of alleged melody-
   sensitive PCA where no plausible phonological pathway exists between the
   illegal and the legal alternant
b. below, it is shown that all relevant patterns identified under (26) can be accounted
   for.

7. Case studies
7.1. Two straightforward cases
(31) two straightforward cases
a. Yucunany Mixtepec Mixtec (26)d
   1. 3sg familiar marker is -a after i-final stems, but -i elsewhere.
   2. -i is associated to its nucleus in the lexicon and -a floats.
   3. When -i is illegal due to dissimilation, it vacates its constituent and the
      floating -a takes its place.
two straightforward cases
b. The Spanish conjunctions "and" and "or" (26)e
(Bonet & Mascaró 2006, Mascaró 2007: 722)
  1. and
     i
everywhere except before words that begin with i, where e is observed (Maria y
Pedro "Maria and Pedro", but María e Ignacio "Maria and Ignacio").
  2. or
     o
everywhere except when the following word is o-initial, in which case u
surfaces (Pedro o María "Pedro or Maria", but este alomorfo u otro "this
allomorph or (an)other (one)").
3. i / o is lexically associated and accompanied by a floating rescue
vowel, e / u.
4. In case the general item is illegal because of dissimilation, it dissociates. The
rescue vowel then attaches to the vacated position.

7.2. Hungarian -s / -El: when more than one segment alternates

prediction made by the floating segment analysis
a. all pieces that make the legal and the illegal alternant distinct must be able to be
derived by purely phonological means.
b. Hungarian present tense indef. 2sg marker (26)b
  seems to be out of reach:
  -s everywhere except after sibilant-final stems
  -El occurs after sibilant-final stems (E is a harmonizing vowel).
  ==> two segments alternate: E and I.

Hungarian present tense indef. 2sg

a. -s
b. -El
  kap-sz you get
  dob-sz you throw
  lók-sz you push
  vágy-sz you cut
  nyom-sz you press
  lő-sz you shoot
  ró-sz you scold

b. -El
  mos-ol you wash
  néz-el you look
  tesz-el you put
  ráz-el you shake
  vonz-ol you attract
  főz-ol you cook

7.3. Hungarian -i / -ja: harmonic incompatibility

Hungarian -i / -ja (26)c
Ssg, 2pl, 3pl indicative definite present tense
-i occurs after front stems, while -ja is found after back stems.

a. -ja

b. stem vowel
  a labial kap kap-ja gets, gets it
dental lát lát-ja [laacca] sees, sees it
dental ad ad-ja [uja] gives, gives it
sibilant olvas olvas-sa [olvaʃʃa] reads, reads it
sibilant mász mászsa [maaasʃʃa] gives, gives it
velar rak rak-ja puts, puts it
o labial dob dob-ja throws, throws it
dental mond mond-ja [monja] says, says it
sibilant mos mos-sa [moʃʃʃa] washes, washes it
sibilant tosz tossza [tosska] pushes, pushes it
u dental fut fut-ja [ʃʃʃʃʃʃa] runs, runs it
dental für für-ja drills, drills it
sibilant üss üssza [uussa] swims, swims it
velar rúg rúg-ja kicks, kicks it

- ro
  ró-ja
  rója
carves, carves it
u dental fut fut-ja [ʃʃʃʃʃʃa] runs, runs it
dental für für-ja drills, drills it
sibilant üss üssza [uussa] swims, swims it
velar csuk csuk-ja closes, closes it
velar rúg rúg-ja kicks, kicks it
HUNGARIAN

- i - ja (26)c

3sg, 2pl, 3pl indicative definite present tense
-i occurs after front stems, while -ja is found after back stems.

b. -i

stem floating vowel C

<table>
<thead>
<tr>
<th></th>
<th>visz</th>
<th>visz-i</th>
</tr>
</thead>
<tbody>
<tr>
<td>e</td>
<td>kér</td>
<td>kér-i</td>
</tr>
<tr>
<td>ō</td>
<td>főz</td>
<td>főz-i</td>
</tr>
<tr>
<td>ō</td>
<td>nő</td>
<td>nőv-i</td>
</tr>
<tr>
<td>ü</td>
<td>nyű</td>
<td>nyűv-i</td>
</tr>
</tbody>
</table>

carries, carries it
asks for, asks it
cooks, cooks it
grows, grows it
wears out, wears it out

37) Hungarian

3sg, 2pl, 3pl indicative definite present tense
-i occurs after front stems, while -ja is found after back stems.

(38) Harmonic system

a. Neutral vowels

1. i is traditionally considered neutral
2. Neutral = some i-stems take front, others take back suffixes
   vőz "water" - vőz-nek "id., dative"
   híd "bridge" - híd-nak "id., dative"

b. Tőrkenczy (2011: 2977f)

but Tőrkenczy provides evidence that the i of our morpheme is truly front, rather than neutral; it is not transparent as expected, but opaque.

1. Final i of Martini (beverage) is neutral:
   martini-z-i i martini-z-za  "drink Martini 3sg def. pres. indic."
   (the -z- is a verbalizing suffix)
2. But when further harmonizing suffixes are added to the -z allomorph, they can only be front:
   martini-z-i-tek  "martini-z-i-tok  you-pl spill Martini on it"
   i => since it is truly front
3. As a patient of harmony whose head is a preceding vowel, it behaves like a front vowel, i.e. is incompatible with a requirement for backness.

(39) Floating segment analysis

a. When occurring in a back harmony domain, the -i needs to be non-front.

b. The only way to comply with this requirement is for the -i to vacate its nuclear position, i.e. the one targeted by vowel harmony.

c. 3sg (2pl, 3pl) ind. -i - ja: single underlifter cum harmony

1. Lexical shape
   2. after back stems, i.e. under harmonic anti-front
   pressure

   O N   O N
         I a

   [-i]  [-ja]

(40) Catalan masculine marker (26f)

a. -u- appears between the stem and the suffix in case the former ends in an -s and the latter is s-initial.

b. This situation occurs with the plural marker -s

   gos gos-u-s dog
   gos-u-gos glasses

   class A: alternating -u-
   class B: stable -u-

   d. Nothing specific needs to be said for the "lad" class under 1), 2): the lexically associated -u- is concatenated and the result is pronounced as such.

c. In the singular form of class A, the morpheme corresponding to this class is a floating -u- and as such remains unpronounced (according to regular autosegmental standards): the result is gos.
There are other ways of analyzing the origin of the syllabic support -w- associates to (the final empty nucleus of the root in approaches where consonant-final words are onsets of empty nuclei), but this is orthogonal to the issue discussed.

There are some other isolated instances in the language where long aa behaves like if it were a short vowel (van Oostendorp, p.c.). in twelfl “twelve” it is followed by a consonant cluster, and in Pasen “Eastern” it occurs to the left of a voiceless fricative. Mid tense vowels do not occur in these environments.
laryngealized vowels

a. are "a compound phonation type, characterized by complex articulation: one part of the glottis vibrates and produces voicing, while another part produces a creak" Nikolaeva & Tolskaya (2001:39)
b. Nikolaeva & Tolskaya (2001: 41) report that experimental phonetic studies have shown that a laryngealized vowel is pronounced

1. [VʔV] (or [VbV] depending on dialect)
2. i.e. as two vowels of the same quality with an intervening glottal stop (or h).
3. laryngealized vowels = <'V>

\'a = [aʔa] or [aha]


1. There is a good reason why the glottal stop (or h) cannot stand alone: they do not exist as independent consonants in Udihe (Nikolaeva & Tolskaya 2001: 51).
2. In other words, they can only occur when taken in a spreading domain that spans two nuclei, which makes a single laryngealized segment.
3. The analysis also makes explicit what it means for high vowels to be unable to be laryngealized: they cannot spread "through" a glottal, i.e. the glottal is not transparent for them.

8. The floating segment analysis can only do segmentally conditioned PCA

(48) workings

c. stand-alone / h?

1. There is a good reason why the glottal stop (or h) cannot stand alone: they do not exist as independent consonants in Udihe (Nikolaeva & Tolskaya 2001: 51).
2. In other words, they can only occur when taken in a spreading domain that spans two nuclei, which makes a single laryngealized segment.
3. The analysis also makes explicit what it means for high vowels to be unable to be laryngealized: they cannot spread "through" a glottal, i.e. the glottal is not transparent for them.

9. Multiple inputs and morpheme-specific phonology

9.1. Antipathy against morpheme-specific phonology

(51) Basque Mascaró (2007: 719ff)

a. postnasal voicing of voiceless obstruents in a subset of affixes
E.g. derivational suffix
1. -dar after nasal-final stems
2. -tar elsewhere
b. Eibar - elbar-tar "town name, inhabitant of Eibar"
Arizkun - arizkun-dar "town name, inhabitant of Arizkun"
c. there are no morphological factors involved in the process of determining whether -tar or -dar appears on the surface

(45) laryngealized vowels

a. are "a compound phonation type, characterized by complex articulation: one part of the glottis vibrates and produces voicing, while another part produces a creak"
Nikolaeva & Tolskaya (2001:39)
b. Nikolaeva & Tolskaya (2001: 41) report that experimental phonetic studies have shown that a laryngealized vowel is pronounced

1. [VʔV] (or [VbV] depending on dialect)
2. i.e. as two vowels of the same quality with an intervening glottal stop (or h).
3. laryngealized vowels = <'V>

\'a = [aʔa] or [aha]

c. stand-alone / h?

1. There is a good reason why the glottal stop (or h) cannot stand alone: they do not exist as independent consonants in Udihe (Nikolaeva & Tolskaya 2001: 51).
2. In other words, they can only occur when taken in a spreading domain that spans two nuclei, which makes a single laryngealized segment.
3. The analysis also makes explicit what it means for high vowels to be unable to be laryngealized: they cannot spread "through" a glottal, i.e. the glottal is not transparent for them.

8. The floating segment analysis can only do segmentally conditioned PCA

(49) what the floating segment analysis cannot do

a. As indicated by its name, the floating segment analysis is about segments:

1. Size restrictions: size is not an object, and nothing that can float.
2. "[l]aryngealized vowels have a gr

(47) floating segment analysis based on this evidence

a. lexical identity of the perceptive morpheme b. suffixation to stems b. suffixation to stems

ON ON ON - ON ON - ON | | | | | | | | ge z a w a ? ge b u ? g e [za\w]\[buge]

(48) workings

a. When suffixed to a stem whose final vowel is laryngealizable as under (47)b,

1. nothing happens except the spreading of the stem-final vowel to the final empty nucleus that comes with the suffix.
2. laryngeal transparency
   a. a vowel is copied "through" a glottal articulation, well known from other languages (see e.g. Stemberger 1993).
   b. Since there are no syllabic constituents that the floating -ge could attach to, it remains unpronounced.
3. When attached to a stem whose final vowel cannot be laryngealized as under (47)c
   1. the glottal stop dissociates,
   2. which opens the way for the floating -ge to parachute on the now vacant onset and nucleus of the suffix.

(50) in sum

a. we are thus thrown back exactly to the front line defined by melody-free syntax:

1. Size restrictions: size is not an object, and nothing that can float.
2. stress, intonation and rhythm, which are not objects either, and which therefore cannot float.

b. suffixation to stems

c. and this item cannot just be floating because it makes the stem-final vowel long.

d. That is, its lexical identity must include some syllabic space.

(46) a. This information substantially modifies the picture:
   b. the perceptive morpheme does have a segmental identity, ?(or h),
   c. and this item cannot just be floating because it makes the stem-final vowel long.
   d. diachronic origin

Nikolaeva & Tolskaya (2001: 41f) mention that the diachronic origin of laryngealization is *-k-, which has thus become ?(or h).
(52) antipathy against morpheme-specific phonology
a. What is the reason, then, to set up two distinct allomorphs (instead of a single underlier), when the pattern requires only regular phonology applied to a subset of morphemes?

b. Mascaró (2007: 721) dismisses the single underlier option because he argues that "natural" phonological processes, i.e. those that produce or improve the markedness of the string, should not be restricted to apply to (sets of) specific morphemes.

c. One may wonder why this should be, since markedness promotion in specific contexts is what TETU (the emergence of the unmarked) is all about: grammar does not produce unmarked structures in all cases because faithfulness restrictions outrank them, but they emerge when faithfulness restrictions for some reason are released in specific contexts.

(53) allomorphy depends on your world view
a. the classification of patterns as allomorphy that have no morphological conditioning at all except for being morpheme-specific entirely depends on more general considerations regarding
   1. the treatment of regularity
   2. redundancy in lexically stored items
   3. the purview of grammar in general and of phonology in particular.

b. The idea that a single morpheme, or an arbitrarily defined set of morphemes, can obey specific phonological regularities that are not active elsewhere in the language embodies in the OT literature as
   1. cophonlogies (e.g. Anttila 2002)
   2. and indexed constraints (e.g. Pater 2000)

b. Like Mascaró (2007), Bermúdez-Otero (2012: 64) argues against morpheme-specific phonological computation
   1. underlying representations are lexically idiosyncratic, but computation is not, or should not be
   2. a generality criterion needs to be applied in order to find out which alternations are the result of phonological computation:
   3. an alternation that requires a morpheme-specific phonology is suspect per se.
   4. Bermúdez-Otero does not require 100 regularity in the language for a process to identify as phonological – but a more general relevance than just for one morpheme (e.g. application in a cyclic domain) is needed to admit the alternation in the purview of phonology.

d. oooold question: what exactly counts as phonological?
Abstractness debate of the 70s, never solved and always relevant.
Different takes on it make phonological theories look wildly different since the set of empirical facts they are designed to account for dramatically varies in size: 50%, 30%, 5% of what SPE did?

9.2. Multiple inputs & the floating segment analysis both avoid morpheme-specific phonology

(54) multiple inputs

Basque post-nasal voicing
a. morphemes that produce postnasal voicing
   1. phonological computation does not make any reference to specific sets of morphemes by inscribing the peculiarity of the set of morphemes where postnasal voicing is active in their lexical recording.
   2. the underlying form of the suffix that appears as -tar and -dar on the surface is [/-tar, -dar]/
   3. after concatenation with a stem producing e.g. /Eibar-tar and Eibar-dar/ both items contained in angled brackets are submitted to GEN (multiple inputs), and thus produce candidates such as Eibar-tar and Eibar-dar which are then evaluated by regular phonology.

b. morphemes that do not produce postnasal voicing
   1. only one single item:
      the adverbial suffix -ki for example is simply /-ki/
   2. High ranked IDENT(voice) then assures that the voiceless obstruent of this morpheme will always surface as such.
   3. This constraint is toothless in the case of multiple inputs such as [/-tar, -dar]/ since there is nothing to be faithful to: the lexical recording provides both voiced and voiceless items.
   4. Hence IDENT(voice) will never be violated by morphemes with multiple inputs, and lower ranked constraints will decide about the winning option.

c. no morpheme-specific phonology
   1. no constraint ever applies only to a subset of morphemes: all constraints evaluate all morphemes,
   2. morpheme-specificity is expressed in the lexical recording of morphemes (multiple or single inputs).

(55) floating segment analysis

a. follows exactly the same logic, albeit using the regular autosegmental mechanism:
   1. the difference between the non-alternating -ki and the alternating -tar / -dar is that the latter has indeed multiple inputs in the sense that in its lexical recording the -t is associated while the -d floats.
   2. In case the lexically associated form is illegal in postnasal environments, it delinks and the surrogate -d attaches.
   3. By contrast, -ki has no floating rescue segment in its lexical recording and therefore nothing can be done or repaired when it appears in a context that requires postnasal voicing.
   4. The fact that it still appears on the surface in violation of the postnasal voicing requirement shows that the non-deletion of consonants is higher ranked than the compliance with postnasal voicing.
   5. Here as well phonological computation never makes reference to specific sets of morphemes: all morphemes are evaluated by the same grammar.
difference
a. The difference with respect to Mascaró's scenario is the fact that there is no allomorphy:
  b. the associated and the floating segment both belong to a single underlying lexical recording.

in sum
a. the floating segment analysis:
  1. avoids morpheme-specific phonological computation
  2. reduces apparent allomorphy to a single underlier
b. multiple inputs
  1. avoids morpheme-specific phonological computation
  2. but is allomorphic

c. multiple inputs
do not challenge melody-free syntax because allomorph selection is entirely done in the phonology. That is, Mascaró's purely phonological scenario will never provide counter-examples to melody-free syntax because it does not involve any morphological allomorph selection in the first place.

d. but they are incompatible with the empirical generalization that allomorphy is never conditioned by melody.
If this is true, the patterns that Mascaró takes to be cases of allomorphy cannot be allomorphy.
e. the floating segment analysis is a non-allomorphic alternative for the patterns at hand.

References


