MARKEDNESS
AND
PROMINENT POSITIONS
IN NIUAFO‘OU

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1 AIM
This paper examines a number of phonological phenomena in the Polynesian language Niuafo‘ou. In doing so, it is shown that positional markedness constraints – markedness constraints specific to prominent positions – are necessary.

2 BACKGROUND

• Phoneme Inventory:
  (i) vowels: /i e a o u/
  (ii) consonants: / p t k f s h v m n /

• σ=(C)V(Vk)
  (i) ViVk can be a long vowel (e.g. /o:/) or falling diphthong (e.g. /ei/).

• Main Stress:
  A trochaic foot must appear at the right edge of a word, without regard to syllable structure (NFO is like Tongan in this respect – Poser 1985, P&S 1993:29):
  (1) pa.(ú.u) *(páu).u naughty
      pa.(to) *(pái).to kitchen
      ho.(ó.si) *(hó:).si horse

• Secondary Stress
  (3) (lè.ti).(ó:) radio
      (tjú:).(ó) work
      (pà.si).(ká.la) bicycle
      we(lí.ñá).(tó.ni) Wellington (name of a city)
      (sí.o).(ká:).(lá.fi) geography

• ONSET » ALL-FT-R
  (4) PARSE-σ = ALL-FT-R
      /pasikala/                  PARSE-σ   ALL-FT-R
      (pási)(kála)               x x!
      pasi(kála) x x!

However, unlike main stress, a syllable is not broken up if this would result in a foot appearing closer to the right edge of the word:

• DEP-σ-IO “Every element in a head syllable in the output has a correspondent in the input.”

3 POSITIONAL FAITHFULNESS

There is an exception to the stress placement rules outlined above:

• epenthetic vowels cannot bear secondary stress, but they can bear main stress:
  (7) (sáí.e)(ní.si) * sa.(í.e)(ní.si) science
      (tò:ke)(tá:) * to.(ò:ke)(tá:) doctor

• FOLLOWING P&S (slightly modified):

  (2) Following P&S (slightly modified):
      pa.(ú.u) *(páu).u
      pa.(to) *(pái).to
      ho.(ó.si) *(hó:).si

      /pasau/ SOME-FT-R ONSET
      (páu).u x!
      (páu).u x!

So: PARSE-σ SOME-FT-R

ONSET ALL-FT-R

ONSET
4 Voiceless Vowels

- /i/ and /u/ are voiceless after voiceless C’s, and voiced elsewhere:
  T23: tápi wipe cf tápi weep (T22)
  T24: tápu sacred cf námu mosquito (T22)
  T25: kìsù hé: {interjection}
  T43: kìsù líni, * kìsù líni bicycle
  hàu/làkà/sìa chiefly

Since the vowel agrees in voicing with its onset:

(12) \[ \text{C-VDV+VD} \Rightarrow \text{IDENT(VOICE)} \]

- However, /i/ and /u/ do not devoice in stressed syllables:
  T20: vañţha, *vañţha play
  T20: tůkù, * tůkù push
  T24: mañţli, * mañţli alive
  T45: làñţ → làhñìni, *làhñìni large → large+{proximal deictic}

So, the constraint \*σ/V is needed:

(13) \*σ/V \* C-VDV+VD

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1 Since only /i/ and /u/ can be voiceless: \*i = *c, *o = *C-VDV+VD = *j, *y.
15. ONSET = *MAR/glide » IDENT(μ)


16. IDENT(μ): ‘If xℜy and (i) x is associated to a μ, then y is associated to a μ. (ii) x is not associated to a μ, then y is not associated to a μ.’

17. ** /juniti/ **
<table>
<thead>
<tr>
<th>#</th>
<th></th>
<th>ONSET</th>
<th>*MAR/glide</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ju.ni.ti</td>
<td>x</td>
<td>x!</td>
</tr>
<tr>
<td>2</td>
<td>i.u.ni.ti</td>
<td>x</td>
<td>x!</td>
</tr>
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</table>

However, there is an environment in which glides do not appear:

18. [i.á.te] yard, not *[já.te] (T 28)
   [u.á.fu] wharf, not *[wá.fu] (T 28)
   [u.i.pi] whip, not *[wi.pi] (T 28)
   [ku.á.ta] quarter, not *[kwáta] (T 28)
   [li.ni.ti.I] India, not *[li.ni.ti.I] (T 28)

What blocks glide-formation?

19. *MAR/glide(Ft+): “No glide-margins in head feet.”

21. ** /yukuntja/ **
<table>
<thead>
<tr>
<th>#</th>
<th></th>
<th>MAXIO</th>
<th>*MAR/GLIDE(σ)</th>
<th>ONSET(σ)</th>
<th>ALIGN-σ-L</th>
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<tbody>
<tr>
<td>1</td>
<td>yí.kun.tja</td>
<td>x</td>
<td></td>
<td>x</td>
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</tr>
<tr>
<td>2</td>
<td>yù.kun.tja</td>
<td>x</td>
<td></td>
<td>x</td>
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</table>

22. ** /lipa/ **
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<th>ONSET(σ)</th>
<th>ALIGN-σ-L</th>
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<tbody>
<tr>
<td>1</td>
<td>flipa</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>ilípa</td>
<td>x</td>
<td></td>
<td>x</td>
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</table>

23. ** /rinha/ **
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<th>ONSET(σ)</th>
<th>ALIGN-σ-L</th>
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</thead>
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<tr>
<td>1</td>
<td>rín.ha</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>rín.há</td>
<td>x</td>
<td></td>
<td>x</td>
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</table>

6 CODA RESTRICTIONS

The preceding discussion has assumed that syllables are of the form (C)V(V). However, this is not correct: (C)VS syllables, where S is a sonorant consonant, occur in loanwords:

24. (i) CVN: pen.sí.ní benzine (T 28)
   ?lu.ní.ti India (T 28)
   (ii) CVL: mél.po.á.ní Melbourne (T 28)
   (iii) cf *CVO: tì.ki.si.ni.le dictionary, not *tìk.si.ni.le (T 44)
      si.ki.lí.ní screen, not *si.kí.líní (T 44)

• CVS syllables are mono-moraic, otherwise *pèn.sí.ní.
• We don’t get *sài.én.si (we get sài.e.ní.si) instead. So, CVS syllables are banned in main stressed syllables too.
• We don’t get *[pén.sin] or *[penísin], so there’s a ban on word-final CVS syllables.

How come? NOCODA(Ft+) “Cods are banned in the head foot.”

25. ** /saiens/ **
<table>
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<tr>
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<th>NOCODA(Ft+)</th>
<th>DEP-σ-IO</th>
<th>DEP-IO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>/saiens/</td>
<td>science</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>
<pre><code>  |   | (sái.e.ní.si) | | x | |
  |   | (sái.e.ní.) | | x | |
</code></pre>

<table>
<thead>
<tr>
<th>#</th>
<th></th>
<th>NOCODA(Ft+)</th>
<th>DEP-σ-IO</th>
<th>DEP-IO</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>/pensin/</td>
<td>benzine</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>
<pre><code>  |   | (pěn.sin) | | x | |
  |   | (pën.sin) | | x | |
</code></pre>

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* Actually, this should be: //SOME-FT-L, FTBIN, MAXIO » *MAR/GLIDE(σ), ONSET(σ) » ftforma=4amb/. For justification of this see my (forthcoming) paper.
Alternative:
1. *C#
2. CVS syllables are bimoraic. ALIGN-FT-R would cause a parse of /CV(N.CV)/, forcing an illicit [N].
  Epenthesis is preferable to this: [CV(N CV)].

7 FAR FROM THE ATOLL …

Trubetzkoy (1939) discusses a few cases where neutralisation happens in initial syllables alone:
1. p.176, 235: Middle Bohemian (Colloquial Czech): No long vowels in initial position: NO LONG V/σ,
2. p.176: Standard Czech: No diphthongs initially: NO DIPTH/σ,
3. p.235: Erza-Mordvin: Consonantal [± voice] is neutralised only in initial position: *σ/voice

Something I found without Trubetzkoy’s help:
   Lapp: Voiced contrast in oral stops is neutralised in initial $s$ only. Palatal–nonpalatal contrast is likewise neutralised.
     Initial: p-t-k, elsewhere p-t-反倒-k,b-d-d反倒-g]

8 IMPLICATIONS

It is clear that (at least some) markedness constraints have specific instantiations wrt prominent positions – esp. σ, Fτ’. This parallels the situation for faithfulness constraints.

Positional markedness constraints are generally antagonistic on pos. faith constraints. Whereas pos. faith, encourages contrast in prominent positions, pos.markedness restricts it to the unmarked option. This is illustrated with *MAR/GLIDE(σ) in Niuafo’ou: this constraint bans glides in stressed syllables, whereas IDENT("GLIDE")-σ retains their presence. Similarly, Beckman’s MAX-σ.IO means that the stressed syllable will contain a lot of segmental material, while NOCODA-σ predicts that the stressed syllable could potentially be the only one that bans codas (as in NFO).

Less contrast in prominent positions: *F/σ » IDENT(F) » *F

Allophony blocked in prominent positions: *σ-F/σ » *σ-Fσ » *σ-F » IDENT(σ)

(i) P is a prominent position.

References
Kenstowicz, Michael. 1996. “Sonority-Driven Stress.” ROA 33. [In Rivista di Linguistica].