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Neige Rochant

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# Underlying downstep in Pukur (Atlantic)

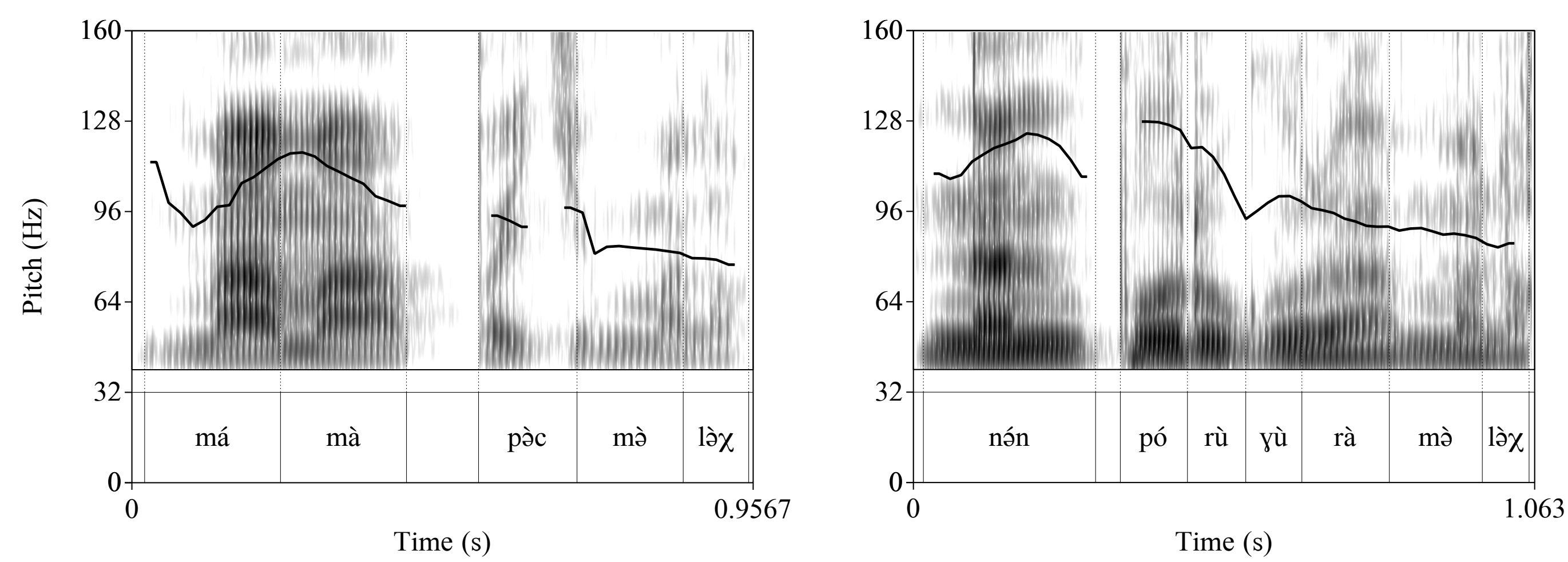
## ±700 speakers in Guinea; 1st-hand field data

- Tonemic distinctions: /H/ vs. Ø. Near culminativity in native lexicon.
- e.g. |sɔ́| ‘cold’ vs. |sɔ̀| [sɔ̀] ‘frog’
- H-tone spreading; dissimilatory <sup>↓</sup> ensuring postlexical OCP-H
- **Instances of unpredictable <sup>↓</sup>Hs lexically associated with certain σ:** in many loanwords (|ɛ. <sup>↓</sup>ɛ. <sup>↓</sup>ko| [lélɛŋgò] ‘flower sp.’) + **2 native suffixes:** PL |<sup>↓</sup>-i| & ATTR -<sup>↓</sup>aŋ

## Argument 1: best analyzed as <sup>↓</sup>H rather than L

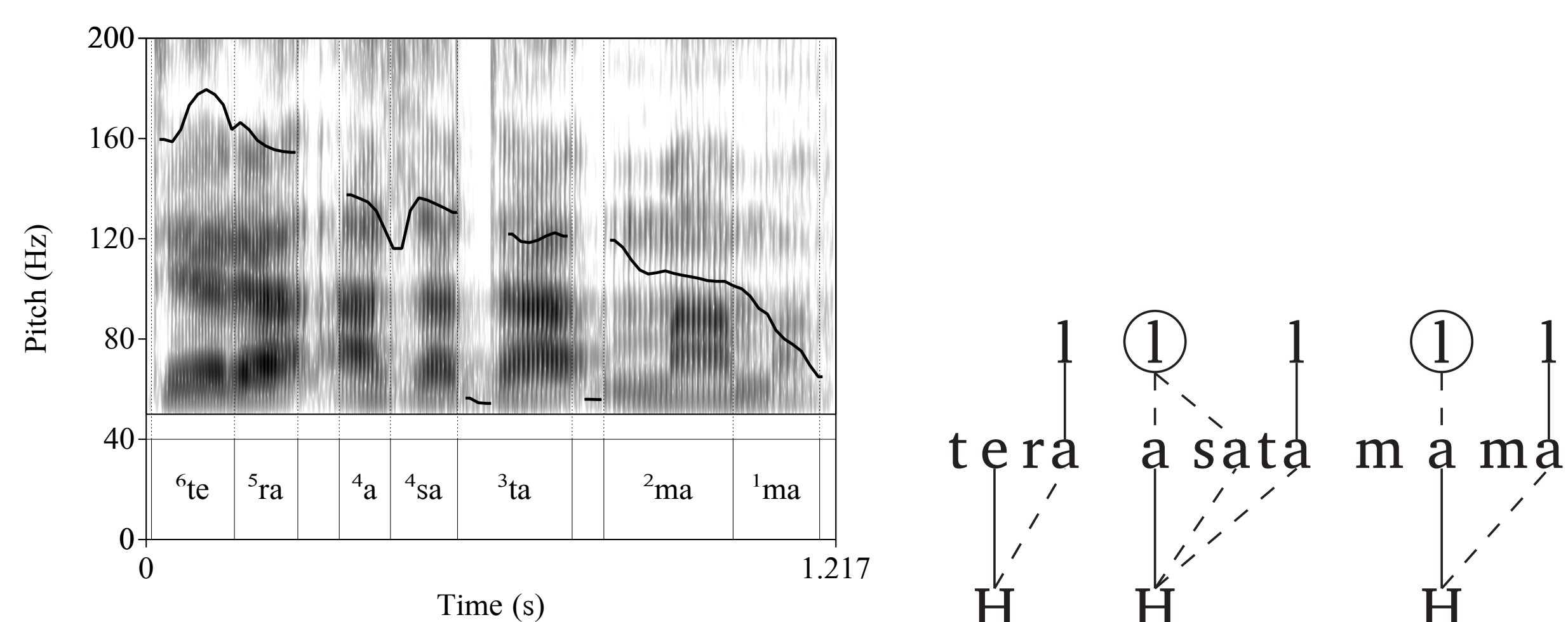
1. All the realizations of unpredictable <sup>↓</sup>H feature most properties typically associated with <sup>↓</sup> (Leben 2018: 2).
2. Their realizations are identical to those yielded by dissimilatory <sup>↓</sup> in same language: “a contrastive drop [in pitch] reset[ting] the register of the following tones” (Hyman 2017: 235).

(1) a. [mámà pəc mələχ] b. [nən pórùyùrà mələχ]  
|má. <sup>↓</sup>ma H\pəc mələk| |nən pa-H\tukta mələk|  
ANTHPN be\_big chief thus 3SG.SBJ-call chief  
‘Mama is older than the chief.’ ‘This is how he called the chief.’



3. These σ yield “an indefinitely long string of contrastive tonal terraces” = one of the main cross-linguistic features of downstep (Leben 2018; Hyman 1979; Rialland 1997; Connell 2011).

(2) [<sup>6</sup>te<sup>5</sup>ra      <sup>4</sup>a<sup>4</sup>sa<sup>3</sup>ta    <sup>2</sup>ma<sup>1</sup>ma]  
|té. <sup>↓</sup>ta      ása<sup>↓</sup>ta    má. <sup>↓</sup>ma|  
Fifth\_Daughter ANTHPN ANTHPN  
‘The fifth daughter of Mama’s [daughter] Assata’



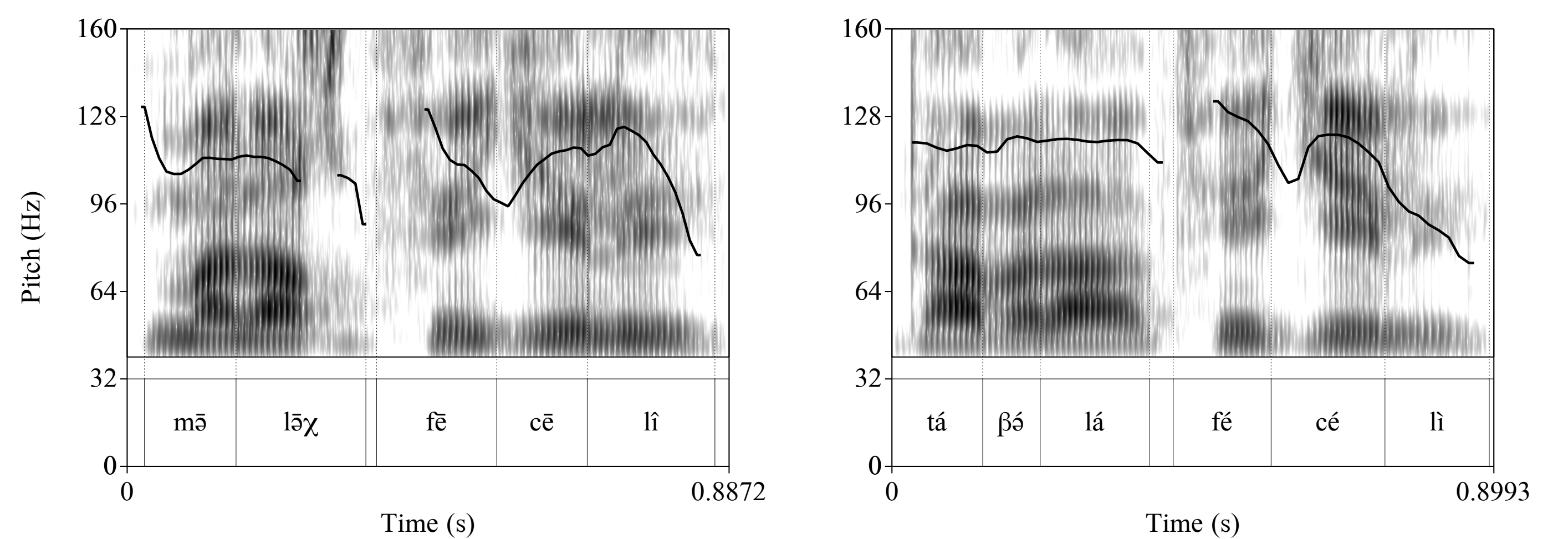
4. Almost all of these syllables’ realizations and interacting phenomena can be accounted for by the combination of H-spreading and <sup>↓</sup>.
5. L-analysis requires separate account for 4 more phenomena:

- (a) these σ lower the pitch of all subsequent Hs to their level;
- (b) further lowering of pitch of subsequent /H/ in different PWD;
- (c) exclusion of [NP(sbj) VP] structures from preceding rule;
- (d) The pitch of these σ varies depending on their total number and on the number of /H/s in different PWDs within the IP.

## Argument 2: underlying rather than derived

1. <sup>↓</sup> resulting from L<sup>o</sup>σ involves intermediate representations that never surface + ad hoc toneme unattested in Pukur → unnecessary layer of derivation without explanatory gain.
2. Attributing this <sup>↓</sup> to an OCP constraint against {HH}<sub>ω</sub>, entailing that unpredictable <sup>↓</sup>σ = /ó/, seems to align with the data...  
[má.mà] could reflect |má.má| → /má. <sup>↓</sup>má/
3. BUT it fails to account for the contour realization of these σ in the absence of a preceding H: e.g. PL suffix |<sup>↓</sup>-i|: realized like any /<sup>↓</sup>ó/ if preceded by H (3b) → could reflect |í|. But realized as [í] if no preceding H → **cannot** reflect |í|, as Pukur realizes /ó/ as [óó].

(3) a. [mələχ fəcɛlí] b. [tápála fəcɛlí]  
|mələk fecel-<sup>↓</sup>i| |tápəla fecel-<sup>↓</sup>i|  
chief brother-PL first brother-PL  
‘[My] brothers’ chief.’ ‘[My] first brothers.’



## Typology & Diachrony of /<sup>↓</sup>/

1. Rare, but supported by pre-existing literature, esp. Lionnet (2022, 2025b): underlying <sup>↓</sup> in 4 Oceanic languages of New Caledonia.
2. Evidence suggesting development from accentual system in which secondary accent was marked by <sup>↓</sup>, similar to what Lionnet (2025a) proposes as source of underlying <sup>↓</sup> in New Caledonia:

- (a) 10 tonal Atlantic languages (out of 50-60), unevenly distributed and all in contact with Mande → Childs (2010: 28): retention of Niger-Congo tone due to contact. **BUT Pukur does not fit in this pattern;**

Prosodic elements reminiscent of stress system = associated with native lexicon vs. deviations in favor of tonal system (/H/ + /<sup>↓</sup>/ on single σ; /<sup>↓</sup>/ in free distribution) = associated with loanwords.

- (b) The only native morphemes with /<sup>↓</sup>/ = suffixes.

- (c) PL |<sup>↓</sup>-i| has flavor of clitic: exclusively found on kin terms (with implicit genitive modifier) and possessive pronouns (e.g., fal-m = káŋ-<sup>↓</sup>i child-PL = 1SG.POSS-PL ‘my children’).  
→ HYP: historically full-fledged clitic located at the right edge of genitive kin term NPs;  
e.g.: \*|semil mələk = <sup>↓</sup>i| sister chief = PL ‘the chief’s sisters’ instead of current |semil-<sup>↓</sup>i mələk|).

- (d) Pukur enclitics are tonic (contrary to suffixes). Due to postlexical OCP-H, they *may optionally* be downstepped after tonic host (partial prosodic integration).  
→ |<sup>↓</sup>-i| could reflect former recessive accented clitic whose pitch was lowered due to prosodic dominance of host.

→ **HYP: Reanalysis of \*|<sup>↓</sup>-i| as SUFF caused reanalysis of its H as <sup>↓</sup>, and recessive accent in morphemes that remained free words/clitics reinterpreted as dissimilatory downstep ensuring postlexical OCP-H.**

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