The Behaviour of nasal glottal fricative and nasal glottal stop segments in Jakarta Indonesian: an OT analysis

In this paper, I analyse alternations that occur when a nasal prefix is added in Jakarta Indonesian (henceforth: JI), a variety of Indonesian with strong connection to Betawi Malay, forming a continuum. In particular, when the prefix is added to words that begin with [ʔ] and [h], we find an intriguing pattern of epenthesis and deletion as shown in

1. /N+hukum/ → ɳəhukum → ‘to punish’
2. /N+ambil/ → ɳambil → ‘to take’

In analysing nasal substitutions, Pater (1996) proposed *NC (nasal voiceless constraints) as the markedness constraints and the other faithfulness constraints must dominate an anti-metathesis constraint LINEARITY in Austronesian languages. I extend Pater’s proposal to analyse JI in this paper. However, instead of using *NC (nasal voiceless constraints), I propose new constraints *N-GL/STOP (nasal-glottal/stop) and *N-GL/FRIC (nasal-glottal/fricative). The study found that markedness constraints *N-GL/STOP and *N-GL/FRIC respectively dominates DEP, MAX and LINEARITY.

Nasalization misses target glottal in the feature geometrical framework proposed by Cohn (1993). Based on Cohn’s hypothesis, this paper suggests that when root-initial glottal stop and glottal fricative occur with the nasal prefix, the glottals do not undergo nasalization. Neither the homorganic nasal nor a homorganic clusters occurs with root-initial glottal fricative [h] preceded by a nasal in JI. Instead, epenthesis mediates the sequence [ɲh] as shown in (1) above. I propose *N-GL/FRIC over LINEARTY, DEP and MAX to analyse the root-initial glottal fricative [h] as illustrated in (3). However, unlike the [h], the glottal stop behaves like any other obstruent in JI. It favors deletion rather than epenthesis. The ranking argument in (4) indicates that [ʔ] undergoes deletion rather than fusion in the optimal output in (4a). Epenthesis is disfavored as it appears as a losing candidate in (4b).

However, the [ɲh] and [ɲʔ] sequences possibly occur simultaneously in the output between words. This occurs when [ɲh] and [ɲʔ] are preceded by at least a core syllable (CV) and the nasal itself is included as the final consonant in the maximum syllable CVC e.g. [yan] ‘relative particle’ [man] ‘indeed’ (see (3) and (4)). CVCC or CCV are not allowed in JI, accordingly there should be one constraint to block [ɲh] and [ɲʔ] from forming one syllable simultaneously as consonant clusters. The markedness constraint *COMPLEX-SYLLABLE used in McCarthy (2008) is useful to block the CVCC or CCV from occurring in the output. As a consequence, *N-GL/FRIC and *N-GL/STOP will be violated since these sequences occur in the output and as a result of this, *COMPLEX-SYLLABLE dominates *N-GL/FRIC and *N-GL/STOP respectively.

1 Pater (1996) uses the common *NC (nasal can not be followed by voiceless consonants). Given the data Pater is considering, Standard Indonesian, has the need to motivate the fusional analysis, *NC seems an adequate constraint. However, it offers no insight in the nasal glottal fricative [ɳh…] and nasal glottal stop [ɲʔ…] in JI since neither [h] nor [ʔ] behaves like voiceless consonants.
### Tableaus

#### (3) *COMP-SYLL >> *N-GL/FRIC >> LINEARITY, DEP and MAX

<table>
<thead>
<tr>
<th>/N₁+h₂ukum/ (to punish)</th>
<th>*COMP-SYLL</th>
<th>*N-GL/FRIC</th>
<th>LINEARITY</th>
<th>DEP</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. η₁h₂ukum</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. η₁,2ukum</td>
<td></td>
<td>*</td>
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<td></td>
<td></td>
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<tr>
<td>c. η₁h₂ukum</td>
<td></td>
<td></td>
<td>*</td>
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</tr>
</tbody>
</table>

#### (4) *COMP-SYLL >> *N-GL/STOP >> LINEARITY, DEP and MAX

<table>
<thead>
<tr>
<th>N₁ + ?₃ambil (to take)</th>
<th>*COMP-SYLL</th>
<th>*N-GL/STOP</th>
<th>LINEARITY</th>
<th>DEP</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
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<td>a. η₁,2ambil</td>
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See table for details.
References


Key Words: Jakarta Indonesian, Austronesian, nasal prefix, nasal substitutions, phonology, optimality theory.