1. Introduction

- Jesney (2011a): Positional Licensing (e.g. Walker 2011) is more powerful in Harmonic Grammar (HG) than in OT
- Only in HG can Positional Licensing produce licensing in multiple contexts (LMC)
  - Coronals in Tamil can appear in onsets (1) and in initial-syllable codas (1a, b)
  - They assimilate to a following onset elsewhere (2)

1. a. /tunpam/ [tun.bå] ‘sorrow’
   b. /nənpan/ [nən.bå] ‘friend’
   c. /kaṭam/ [ka.ɖe] ‘debt (NOM)’

2. a. /pən+kaːl/ [pa.ʂəŋ.ɡə] ‘children’
   b. /kəppal+ṭaːn/ [kap.ɡə.ʈəː] ‘ship (EMPH)’

(Christdas 1998; Wiltshire 1995)

- Jesney (2011a) shows that a Positional Licensing analysis of these facts is possible only in HG
- In OT, LMC requires Positional Faithfulness (Beckman 1999)
- Jesney (2011a, 2011c) suggests that Positional Licensing may entirely replace Positional Faithfulness in HG
- This would be welcome
  - Positional Faithfulness makes incorrect typological predictions (Jesney 2011b, 2011c)
  - Positional Faithfulness and Positional Licensing overlap (Kaplan 2013, Jesney 2011a)
  - Our argument is that Positional Faithfulness is still necessary, and Tamil shows this
    - Using only Positional Licensing, we can account for the behavior of coronals in Tamil, but not non-coronals
- Outline of talk:
  - Assimilation in Tamil
  - Positional Licensing analysis of coronals
    - Failure of OT to do Positional Licensing-only analysis of coronals
    - Jesney’s analysis of coronals
  - Non-coronal assimilation
    - Failure of a Positional Licensing-only analysis of non-coronals
    - Our analysis with Positional Faithfulness
  - Possible alternative solutions and their issues
  - Summary

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1 Thank you to Rachel Hayes-Harb, Abby Kaplan, and audiences at NELS 44, Phonology 2013, and the University of Utah for their helpful feedback on earlier versions of this work.
2. Assimilation in Tamil

- Coronals in Tamil can appear in onsets (3) and in initial-syllable codas (3b, c)
- They assimilate to a following onset elsewhere (4)

(3) a. /tunpam/ \([tun.b\text{\textbar}]\) ‘sorrow’
b. /munšiy/ \([mun.š\text{\textbar}]\) ‘teacher’
c. /nanpan/ \([pañ.b\text{\textbar}]\) ‘friend’
d. /laapam/ \([laa.b\text{\textbar}]\) ‘grain’
e. /kaṇan/ \([ka.q\text{\textbar}]\) ‘debt (NOM)’

(4) a. /pasaŋ + ka:l/ \([pa.s\text{\textbar}ŋ.g\text{\textbar}]\) ‘children’
b. /kappal + țaan/ \([kap.p\text{\textbar}l.tâ\text{\textbar}]\) ‘ship (EMPH)’

(Christdas 1998; Wiltshire 1995)

- Non-coronals are allowed in onsets (5)
- Non-coronal codas are always place-linked to a following onset (5), (6)
- Non-coronal codas that are not placed-linked are not allowed (7)

(5) a. /laapam/ \([laa.b\text{\textbar}]\) ‘grain’
b. /koopam/ \([koo.v\text{\textbar}]\) ‘anger’
c. /rompat/ \([rom.b\text{\textbar}]\) ‘much’
d. /paŋk/ \([paŋ.g\text{\textbar}]\) ‘share’
e. /kamp/ \([kam.b\text{\textbar}]\) ‘stick’
f. /kappal/ \([kap.p\text{\textbar}l\text{\textbar}]\) ‘ship’
g. /pakkam/ \([pa.k\text{\textbar}m\text{\textbar}]\) ‘side’

(6) a. /maram + kal/ \([ma.r\text{\textbar}ŋ.g\text{\textbar}]\) ‘trees’
b. /maram + țaan/ \([ma.r\text{\textbar}ŋ.d\text{\textbar}]\) ‘tree (EMPH)’

(Christdas 1998)


- LMC
  - [+coronal] is licensed by onsets and by initial syllables

- Summary:
  - Outside the initial syllable, all codas and onsets share POA
    - Codas always assimilate to onsets
  - In the initial syllable, coronal codas are not required to share POA with the following onset

3. Analyzing Coronals with Only Positional Licensing

- The licensing constraints needed to account for coronals in Tamil are:
  - LICENSE(place, Onset) – place features are licensed by onsets
    - This captures that fact that in general codas assimilate to onsets
- LICENSE(coronal, $\sigma_1$) – coronal place features are licensed on sonorants in the initial syllable
  - This captures the fact that [+coronal] sonorants in initial syllable codas do not assimilate
- In OT (Jesney 2011a):
  - Both licensing constraints must outrank faithfulness, otherwise they have no effect
  - But this results in coronals surfacing only in the onset of the initial syllable because only there do they satisfy both licensing constraints

<table>
<thead>
<tr>
<th></th>
<th>/tunpam/</th>
<th>LIC(place, Onset)</th>
<th>LIC(coronal, $\sigma_1$)</th>
<th>IDENT(place)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>tum.bâ</td>
<td>*!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>tum.bâ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. /kaṭan/</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>ka.dê</td>
<td>*!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>ka.ʔê</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. /laapam/</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>laa.bâ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>?aa.bâ</td>
<td>*!</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- In OT the ranking that gives licensing power predicts that licensing only occurs at the intersection of the two licensing constraints – initial syllable onsets
- The generalization is that coronals are allowed as long as they don’t violate both licensing constraints; must satisfy at least one of them
  - Harmonic Grammar allows this
  - Jesney (2011a) shows that the licensing analysis that fails in OT works in HG:
    - $w$(IDENT) > $w$(LICENSE(place, Onset)), $w$(LICENSE(coronal, $\sigma_1$)): faithfulness wins when one licensing constraint is violated.
    - $w$(IDENT) < $w$(LICENSE(place, Onset)) + $w$(LICENSE(coronal, $\sigma_1$)): violating both licensing constraints triggers unfaithfulness.
- Under these conditions, coronals are preserved in onsets and initial syllables (9) and assimilate elsewhere (10)

<table>
<thead>
<tr>
<th></th>
<th>/tunpam/</th>
<th>IDENT(place)</th>
<th>LIC(place, Onset)</th>
<th>LIC(coronal, $\sigma_1$)</th>
<th>$H$</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>tum.bâ</td>
<td>3</td>
<td>-1</td>
<td>-2</td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>tum.bâ</td>
<td></td>
<td>-1</td>
<td>-3</td>
<td></td>
</tr>
<tr>
<td>b. /kaṭan/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>ka.dê</td>
<td></td>
<td>-1</td>
<td>-2</td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>ka.ʔê</td>
<td></td>
<td>-1</td>
<td>-3</td>
<td></td>
</tr>
</tbody>
</table>

2This is a simplification of Jesney’s constraint.
Summary

- OT: Positional Licensing permits coronals only in initial syllable onsets (at the intersection of two licensing positions)
- HG: Positional Licensing gangs up to force assimilation in codas outside initial syllable; IDENT preserves coronals in onsets and initial-syllable codas


- Unlike coronals, non-coronals assimilate in all codas
- Non-coronals are allowed in onsets

(10) /kappal + Ɂaan/

<table>
<thead>
<tr>
<th></th>
<th>IDENT(place)</th>
<th>Lic(place, Onset)</th>
<th>Lic(coronal, 1)</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. kap.p3Ɂāā</td>
<td>3</td>
<td>2</td>
<td>-1</td>
<td>-3</td>
</tr>
<tr>
<td>b. kap.p3Ɂāā</td>
<td>3</td>
<td>2</td>
<td>-1</td>
<td>-4</td>
</tr>
</tbody>
</table>

- The LMC weights for coronals are incompatible with these facts
- The LMC analysis predicts that in Tamil only coronals will assimilate

(11)

a. /laapam/ [laa.bā] ‘grain’ 
b. /koopam/ [koo.vā] ‘anger’ 
c. /rompat/ [rom.b3] ‘much’ 
d. /panga/ [panga] ‘share’ 
e. /kamp/ [kam.pu] ‘stick’ 
f. /kappal/ [kap.p3] ‘ship’ 
g. /pakkam/ [pak.kā] ‘side’

(12)

a. /maram + kal/ [ma.r3ŋ.g3] ‘trees’ 
b. /maram + Ɂaan/ [ma.r3ŋ.ɖā] ‘tree (EMPH)’

(Christdas 1998)

(13)

a. *tum.tā 

b. *muŋ.štī 
nc. ɲav.tā

- The LMC weights for coronals are incompatible with these facts
- The LMC analysis predicts that in Tamil only coronals will assimilate

(14)

/maram + kal/

<table>
<thead>
<tr>
<th></th>
<th>IDENT(place)</th>
<th>Lic(place, Onset)</th>
<th>Lic(coronal, 1)</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ma.r3ŋ.g3</td>
<td>3</td>
<td>2</td>
<td>-1</td>
<td>-3</td>
</tr>
<tr>
<td>b. ma.r3m.g3</td>
<td>3</td>
<td>2</td>
<td>-1</td>
<td>-2</td>
</tr>
</tbody>
</table>

- LICENSE(place, Onset) cannot compel assimilation on its own
- With non-coronals, LICENSE(coronal, 1) is moot and LICENSE(place, Onset) cannot overcome the IDENT violation on its own as its weight is lower than that of IDENT.
- For non-coronals, the licensing constraint must outweigh the IDENT constraint, but this is incompatible with the analysis of coronals, as (9) shows
- **Solution**: allow LICENSE(place, Onset) to trigger assimilation everywhere and adopt another constraint to block assimilation of coronals in initial syllable
- Assimilation of non-coronals is motivated by the licensing constraint…

(15)

<table>
<thead>
<tr>
<th></th>
<th>IDENT(cor) - $\sigma_1$</th>
<th>LIC(place, Onset)</th>
<th>IDENT(place)</th>
<th>$H$</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>-1</td>
</tr>
<tr>
<td>b</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>-2</td>
</tr>
</tbody>
</table>

- While the Positional Faithfulness constraint preserves coronals in initial syllable codas and onsets

(16)

<table>
<thead>
<tr>
<th></th>
<th>IDENT(cor) - $\sigma_1$</th>
<th>LIC(place, Onset)</th>
<th>IDENT(place)</th>
<th>$H$</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>-2</td>
</tr>
<tr>
<td>i.</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
<td>-6</td>
</tr>
<tr>
<td>ii.</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
<td>-6</td>
</tr>
<tr>
<td>b.</td>
<td>/kaṭañ/</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>-1</td>
<td></td>
<td>-1</td>
<td>-2</td>
</tr>
</tbody>
</table>

- With the new constraint, LICENSE(coronal, $\sigma_1$) is no longer necessary
- We have replicated Beckman’s analysis in regards to initial syllable codas
- Beckman (1999) uses Positional Faithfulness in OT to analyze Tamil LMC
  - IDENT-Onset(Place) » *DORSAL, *LABIAL, *CORONAL preserves all onsets
  - *DORSAL, *LABIAL » IDENT-$\sigma_1$(Place) » *CORONAL preserves only coronals in the initial syllable

(17)

<table>
<thead>
<tr>
<th></th>
<th>Id-Onset(Place)</th>
<th>*DOR</th>
<th>*LAB</th>
<th>Id-$\sigma_1$(Place)</th>
<th>*COR</th>
<th>Id(Place)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>tun.bā</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>tun.bā</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii.</td>
<td>tun.dā</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>/maram + ṭañan/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>ma.ɾɛm.dā</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>ma.ɾɛm.dā</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii.</td>
<td>ma.ɾɛm.bā</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Summary**:
  - Whether in OT or HG, Positional Faithfulness is necessary to preserve initial syllable coronal codas
  - Motivation for assimilation can take the form of either licensing (our analysis) or markedness (Beckman’s)
5. Direction of Assimilation

- Positional Licensing does not dictate the direction of assimilation

\[
\begin{array}{|c|c|c|c|}
\hline
\text{/maram + kal/} & \text{Lic(place, Onset)} & \text{IDENT(Place)} & H \\
\hline
\text{a. ma.ɾəm.g3} & -1 & & -3 \\
\hline
\text{b. ma.ɾəŋ.g3} & -1 & -1 & -2 \\
\hline
\text{c. ma.ɾəm.b3} & -1 & -1 & -2 \\
\hline
\end{array}
\]

- This is typically handled by Positional Faithfulness
- Jesney (2011c) proposes modifying Positional Licensing constraints to dictate direction of assimilation
  - This does not help with the issue of non-coronals
    - As (14) shows, the licensing constraint that motivates spreading is not weighted heavily enough to motivate non-coronal assimilation, regardless of directionality
  - If Positional Faithfulness is necessary for other reasons, we can use it to control directionality and there is no need to build it into licensing
- Directional licensing also obscures the central aim of licensing, which is to have weak positions share features with strong ones, regardless of how that configuration is achieved
- If directionality is a parameter within Positional Licensing, we predict that left-to-right assimilation – i.e. onsets assimilating to codas – should be attested, yet it is not (McCarthy 2008)
  - The only way to avoid this is to build positional asymmetries into Positional Licensing: instead of specifying right-to-left assimilation, we specify that onsets can't assimilate.
  - That reintroduces Positional Faithfulness in a different guise

6. Other Possible Solutions

6.1 Licensing for Non-Coronals

- Under the LMC analysis, LICENSE(place, Onset) can't trigger assimilation of non-coronals.
- We could adopt another constraint that does this work: LICENSE(non-coronal, Onset)

\[
\begin{array}{|c|c|c|c|c|c|}
\hline
\text{/maram + kal/} & \text{Lic(non-cor, Onset)} & \text{IDENT(place)} & \text{Lic(place, Onset)} & \text{Lic(coronal, σ₁)} & H \\
\hline
\text{a. ma.ɾəŋ.g3} & -1 & -1 & -1 & & -5 \\
\hline
\text{b. ma.ɾəm.g3} & -1 & -1 & -1 & & -8 \\
\hline
\end{array}
\]

- Solves the issue but it misses the generalization
  - Outside the initial syllable, coronality is irrelevant
    - Regardless of specification for [±coronal], onsets are preserved and codas assimilate
• Posits that the two processes are unrelated and motivated by different constraints:
  ◊ Coronal Assimilation - LICENSE(place, Onset) and LICENSE(coronal, $\sigma_1$)
  ◊ Non-Coronal Assimilation – LICENSE(non-coronal, Onset)

6.2 Featural Markedness

• Add feature markedness constraints – *LABIAL, *DORSAL
  o Feature markedness constraint and LICENSE(place, onset) can gang up on IDENT
  o Licensing constraint must indicate directionality ($\Leftarrow$), as in Jesney (2011c)

<table>
<thead>
<tr>
<th></th>
<th>IDENT(place)</th>
<th>LIC(place, Onset)$\Leftarrow$</th>
<th>LIC(coronal, $\sigma_1$)</th>
<th>*LAB</th>
<th>*DOR</th>
<th>$H$</th>
</tr>
</thead>
<tbody>
<tr>
<td>/maram + kal/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. ma.r$\wedge$g3</td>
<td>3</td>
<td>-1</td>
<td></td>
<td>-1</td>
<td>-5</td>
<td></td>
</tr>
<tr>
<td>b. ma.r$\wedge$m.g3</td>
<td>2</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
<td>-6</td>
<td></td>
</tr>
<tr>
<td>c. ma.r$\wedge$m.b3</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
<td>-1</td>
<td>-7</td>
<td></td>
</tr>
</tbody>
</table>

o This gives up on a unified account of coda assimilation
o Instead it treats the process of assimilation as three different processes motivated by three different constraints - *LABIAL, *DORSAL, and LICENSE(coronal, $\sigma_1$), which all bolster LICENSE(place, Onset)

o Treating these as three different processes predicts that they can operate independently of one another
o Predicts a language where just one place feature assimilates in codas while others are preserved
o This ignores the fact that it is not specifically [+labial] and [+dorsal] that are prohibited in codas, but place features in general

• These alternatives sacrifice a unified, elegant account of a positional phenomenon for the sake of doing away with Positional Faithfulness

7. Summary

• Positional Licensing is in fact more powerful in HG than in OT
  o It can do LMC, just as Jesney claims, but it is simply not the right approach to Tamil
• But this doesn’t mean it can fully replace Positional Faithfulness
• Positional Licensing is insufficient for LMC in Tamil because part of that system reflects a more general licensing pattern in the language
• LMC with Positional Licensing works because the two licensing constraints can gang up on faithfulness
• But in Tamil, one licensing constraint must also exert influence independently of the other one. The LMC schema is designed to preclude this
8. Where does this leave us?

- Both Positional Faithfulness and Positional Licensing are necessary
- HG may have advantages over OT (including LMC), but eliminating the need for Positional Faithfulness is not one of them
- In fact, the situation in HG may be worse than that in OT
  - Because of LMC, Positional Faithfulness and Positional Licensing overlap to a greater degree in HG than in OT
- More work is needed to define the roles of Positional Faithfulness and Positional Licensing

References


