**Remarks on Gussenhoven's Sierad**

**Representations as an alternative to rule ordering and sympathy**

Marc van Oosten dorp, HIL/Leiden, (in cooperation with Jan Nijen Twilhaar)

TiN-dag, February 4 1999

1. Bleeding in Hellendoorn nasal assimilation (Nijen Twilhaar)

(1) a. \(/\text{lop}+\text{N}/\) [l̪.p̥m] 'walk'
b. \(/\text{wet}+\text{N}/\) [we.ɛt] 'know'
c. \(/\text{pak}+\text{N}/\) [p̪.ak̥] 'grab'
d. \(/\text{lop}+\text{an}/\) [l̪.p̥m] 'walk a'
e. \(/\text{ramp}+\text{nɑx}t/\) [r̩.mp.nɔx̩t] 'disastrous night'
f. \(/\text{lpi}+\text{N}/\) [li.p̥m]
g. \(/\text{lop}+\text{an}+\text{kert}/\) [l̪.p̥t̥ kɛrt] 'walk one time'

(2) regressive assimilation: x x

[nasal]
domain: ?
(word? phrase?)

progressive assimilation: x x

[nasal]
domain: syllable

(3) a. \(/\text{stɔ}p+t\text{N}+/\) [stɔ.p̥t] 'walked'
b. \(/\text{zɛt}+t\text{N}+/\) [zɛ.t̥t] 'put'
c. \(/\text{pak}+t\text{N}+/\) [p̪.ak̥t]

(4) t deletion: \(t \rightarrow 0 / C \_ \_ C\)

progressive assimilation: x x

[nasal]
domain: syllable

(5) \(/\text{stɔ}p+t\text{N}+/\) \(/\text{zɛt}+t\text{N}+/\) \(/\text{pak}+t\text{N}+/\)

PA \begin{tabular}{l|l|l}
stɔptn & zɛtttn & p̪aktn
\end{tabular}
t deletion \begin{tabular}{l|l|l}
[stɔ.p̥t] & [zɛ.t̥t] & [p̪.ak̥t]
\end{tabular}

**Advantage:**
- It works without being overly complicated.

**Problems:**
- Why no t deletion in Standard Dutch? Is it a coincidence that this rule and progressive assimilation is ordered in this way?
- Why two assimilation rules? Why are they ordered in this way?
2. The problem with constraint ranking

(6) **NASAL PLACE**: Nasals outside the onset should not have an independent place feature.
**CONTOUR**: Two segments should not share a place feature.
**SYLL-CONTOUR**: Two segments within a syllable should not share a place feature.

(7) **NASAL PLACE >> SYLL-CONTOUR, CONTOUR**

<table>
<thead>
<tr>
<th>/pak+N/</th>
<th>NASAL PLACE</th>
<th>SYLL-CONTOUR</th>
<th>CONTOUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>pə.kn</td>
<td>*!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ə pə.kŋ</td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>/pak+N+buk/</th>
<th>NASAL PLACE</th>
<th>SYLL-CONTOUR</th>
<th>CONTOUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>ə pə.km.buk</td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>pə.kn.buk</td>
<td>*!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pə.kŋ.buk</td>
<td></td>
<td>*!</td>
<td>*</td>
</tr>
</tbody>
</table>

(10) **CCC**
Don't delete t.

No clusters of three consonants.

(11) | /pak+++N/ | NASPL | SYLL-CON | CONT | CCC | MAX-T |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>pə.km</td>
<td></td>
<td>*</td>
<td>*</td>
<td>*!</td>
<td></td>
</tr>
<tr>
<td>ə pə.kn</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ə pə.kŋ</td>
<td>*!</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

**Advantage:**
- Captures the 'conspiracies'

**Disadvantage:**
- Does not work for the imperfective forms (ranking paradox)

3. Sympathy

(12) | /pak+++N/ | CCC | MAX-0 | NASPL | SYLL-CON | CONT | MAX-T |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>pə.km</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>ə pə.kn</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>pə.kŋ</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

**Advantage:**
- Works for imperfective forms

**Disadvantage:**
- Sympathy Theory: same problems as a derivational account
4. Representations

(13) *Recoverability*: Don’t delete morphemes without leaving a visible trace in the output.

Recoverability can be seen:

- As a principle constraining the application of rules
- As an OT constraint

(14) **EXPRESS-[F]** (Van Oostendorp 1998: TiN-dag talk!)

The morphological feature F should be expressed in the output. (Some underlying phonological feature of F should be present in the output)

<table>
<thead>
<tr>
<th></th>
<th>/pak++N/</th>
<th>CCC</th>
<th>EXPRESS-TENSE</th>
<th>NASPL</th>
<th>SYLLCONT</th>
<th>CONT</th>
</tr>
</thead>
<tbody>
<tr>
<td>pak.mn</td>
<td></td>
<td>*!</td>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>è pak.kn</td>
<td></td>
<td></td>
<td></td>
<td>*!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pak.n</td>
<td></td>
<td></td>
<td></td>
<td>*!</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>/zè.t1+t2+N/</th>
<th>CCC</th>
<th>EXPRESS-TENSE</th>
<th>NASPL</th>
<th>SYLLCONT</th>
<th>CONT</th>
</tr>
</thead>
<tbody>
<tr>
<td>zè.t1 t2n</td>
<td></td>
<td>*!</td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>è zè.t2n</td>
<td></td>
<td></td>
<td></td>
<td>*!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>zè.t1n</td>
<td></td>
<td></td>
<td></td>
<td>*!</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

NB The representations above may have been slightly simplified. In the last two examples of (16), t1 or t2 probably are ambisyllabic.