Noun incorporation in Sora: A case for incorporation as morphological merger

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0 Introduction

Noun incorporation is the process by which a noun becomes part of a verb stem.

(1) a. pen kina-n *pam-t-aj
I tiger-N seize-NPST-1SBJ
‘I will seize the tiger’

b. pen pam-kit-te-n-aj
I seize-tiger-NPST-VR-1SBJ
‘I will seize a tiger’

Early proposals (Mithun, 1984) suggest it is a lexical process.

Subsequent accounts (Sadock, 1980; Baker, 1988; van Geenhoven, 1998) propose that it is a syntactic process.

Current accounts of noun incorporation rely on head movement and cannot derive the observed structures in Sora.

(2) a. kina-n *pam-t-i
I catch-NPST-1OBJ
‘The tiger will catch me’

b. *pam-kit-t-i
catch-tiger-NPST-1OBJ
‘A tiger will catch me’

(3) dgo-me-bob-d@n-aj
smear-oil-head-RFLX-NPST-VR-1SBJ
‘I smear oil on my head

1 Incorporation

1.1 As head movement

➢ Baker (1988) proposes that incorporation is derived through head movement, which is restricted by the Head Movement Constraint (Travis, 1984).

(4) An X₀ may only move into the Y₀ which properly governs it.

➢ Government is defined by c-command (Chomsky, 1986).

(5) A governs B iff A c-commands B and there is no category C such that C is a barrier between A and B.

➢ So, V must c-command N for N to incorporate, allowing the incorporation of an object (6) but not subject (7) (Baker, 1988, p. 88).

(6) Possible

(7) Impossible

1.2 With m-merger

Head movement and phrasal movement are triggered by the same factor and are in fact instances of the same phenomenon (feature valuation followed by merge) – Matushansky (2006, p. 71)

➢ Head movement and phrasal movement share a landing site (specifier of the attracting head) but differ with respect to the second process (m-merger)
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(8) Head movement as m-merger (Matushansky, 2006, p. 94)

a. movement

\[
\begin{array}{c}
\text{XP} \\
\text{Y}^0 \downarrow \\
\underbrace{X}^0 \\
\text{YP} \\
\text{X}' \\
\text{WP} \\
\text{Y}'^0 \\
\text{ZP} \\
\text{X}' \\
\text{Y}'^0 \\
\text{t_i} \\
\text{WP} \\
\end{array}
\]

b. m-merger

\[
\begin{array}{c}
\text{XP} \\
\text{Y}^0 \downarrow \\
\underbrace{X}^0 \\
\text{YP} \\
\text{X}' \\
\text{WP} \\
\text{Y}'^0 \\
\text{ZP} \\
\text{X}_0' \\
\text{Y}_0' \\
\end{array}
\]

2 Incorporation in Sora

- **Sora** is an SOV, agglutinative, nominative/accusative language.
- Each noun has two forms: the combining form and the free form (Starosta, 1992; Ramamurti, 1931; Anderson, 2007).

<table>
<thead>
<tr>
<th>Affix</th>
<th>Combining form</th>
<th>Free form</th>
<th>Gloss</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>/keN-/</td>
<td>-bud-</td>
<td>kombud</td>
<td>‘pig’</td>
<td>animals</td>
</tr>
<tr>
<td></td>
<td>-dud-</td>
<td>kondud</td>
<td>‘frog’</td>
<td></td>
</tr>
<tr>
<td>/-an-/</td>
<td>-dʒono-</td>
<td>dʒonoŋ</td>
<td>‘broom’</td>
<td>instruments</td>
</tr>
<tr>
<td></td>
<td>-kuŋ-</td>
<td>konuŋ</td>
<td>‘razor’</td>
<td></td>
</tr>
<tr>
<td>RED</td>
<td>-pu-</td>
<td>pupu</td>
<td>‘rice cake’</td>
<td>natural terms</td>
</tr>
<tr>
<td></td>
<td>-saŋ-</td>
<td>saŋsaŋ</td>
<td>‘turmeric’</td>
<td></td>
</tr>
<tr>
<td>VV</td>
<td>-da-</td>
<td>daŋaŋ</td>
<td>‘water’</td>
<td>CVt(N)</td>
</tr>
<tr>
<td></td>
<td>-si-</td>
<td>siŋi</td>
<td>‘hand’</td>
<td></td>
</tr>
<tr>
<td>suppletive</td>
<td>-boi-</td>
<td>onselo</td>
<td>‘woman’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-kid-</td>
<td>kina</td>
<td>‘tiger’</td>
<td></td>
</tr>
</tbody>
</table>

2.1 Object/patient incorporation

- Object incorporation poses no challenge to incorporation as head movement, and is easily derived with m-merger.

(10) a. ŋen kina-n ŋam-t-aj

‘I will seize the tiger’

b. ŋen ŋam-kit-te-n-aj

‘I will seize a tiger’

(Ramamurti, 1931, p. 142)

(11) a. gorzaN-@n gu-ŋ-t-o-dʒi

‘They are building the village’

b. gu-ŋ-saŋ-ta-n-dʒi

‘They are building a village’

Proposal: Incorporation occurs at the functional head v rather than the lexical head V.

- Allows for the incorporation of subjects derived at the specifier of vP.
- Captures the similarities between incorporated and unincorporated forms, changing the valency through a functional head rather than through the verb.
- Driven by feature valuation of INC features on combining forms, while free forms have no INC features.

(12) Derivation of object incorporation

a. Movement

\[
\begin{array}{c}
\text{DP/D}^0 \downarrow \\
\text{vP} \\
\text{v'} \\
\text{VP} \\
\text{V}^0 \downarrow \\
\text{DP/D}^0_{[\text{INC}]} \\
\text{V}^0_{[\text{INC}]} \\
\end{array}
\]

\[\text{INC} \]
2.2 Subject/agent incorporation

‘True’ subject/agent incorporation was previously unattested and has not yet been accounted for.

(13) a. kina-n pam-t-in
   tiger-N catch-NPST-1OBJ
   ‘The tiger will catch me’
   (Ramamurti, 1931, p. 142)

b. pam-kid-t-in
   catch-tiger-NPST-1OBJ
   ‘A tiger will catch me’

(14) a. sonum-on pa₃-t-am
    spirit-N carry-NPST-2OBJ
    ‘The ghost will carry you’
    (Ramamurti, 1931, p. 142)

b. pa₃-sum-t-am
   carry-spirit-NPST-2OBJ
   ‘A ghost will carry you’

(15) a. kembud-on sa₃-t-am
    bear-N mangle-NPST-2OBJ
    ‘The bear will mangle you’
    (Ramamurti, 1931, p. 142)

b. sa₃-bud-t-am
   mangle-bear-NPST-2OBJ
   ‘A bear will mangle you’

Subject incorporation is easily accounted through m-merger alone as subjects are generated at the specifier of vP.

This account provides additional support for m-merger, showing its application outside traditional instances of head movement.

2.3 Adjunct incorporation

Though common cross-linguistically, these structures cannot be derived through models of incorporation via head movement.

Locations clearly incorporate (17a), even to the exclusion of objects (17b).

(17) a. ñ@n ag-ga:-si-am
    neg.npst-drink-hand-2obj
    ‘I will not drink from your hand’
    (Ramamurti, 1931, p. 142)

b. ñ@n da$q-a-n ag-ga:-si-am
    water-N neg-drink-hand-2OBJ
    ‘I will not drink water from your hand’

Instrument incorporation, on the other hand, is possible but is generally disfavored (18c).

(18) a. ñ@n atalki-j-n si$qi:-bate gidja-t-aj
    foot-1SG.POSS hand-WITH scrub-NPST-1SBJ
    ‘I wash my foot with my hand’

b. ñ@n si$qi:-bate aba-dji-ta-n-aj
    hand-WITH wash-foot-NPST-VR-1SBJ
    ‘I wash my foot with my hand’
2.4 Multiple argument incorporation

- Up to two arguments can incorporate successively into a single stem.

(19) dʒo-me-b0m-ta-n-aj
smear-oil-head-RFLX-NPST-1SBJ
‘I smear oil on my head’ (Ramamurti, 1931, p. 143)

(20) pen adʒ-dʒa-dari-ser-aj
NEG.NPST-receive-cooked.rice-hand-2OBJ
‘I won’t receive rice from your hand’ (Ramamurti, 1931, p. 44)

(21) dʒi-loc-si-t-am
stick-earth-hand-NPST-2OBJ
‘Mud will stick to your hand’ (Ramamurti, 1931, p. 44)

- Some combinations of arguments are observed while others are not.

<table>
<thead>
<tr>
<th></th>
<th>Possible</th>
<th>Not Possible</th>
<th>Not Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJ + LOC</td>
<td>OBJ + INSTR</td>
<td>SBJ + INSTR</td>
<td>LOC + INSTR</td>
</tr>
<tr>
<td>SBJ + LOC</td>
<td>SBJ + OBJ</td>
<td>LOC + INSTR</td>
<td></td>
</tr>
</tbody>
</table>

This asymmetry suggests that locations and instruments are not derived in the same way and rather that instruments are derived similarly to subjects and objects.

**Proposal:** There are two incorporating heads v and w and that each can maximally incorporate one argument.

- ♦ v incorporates OBJ, SBJ, and INSTR at vP Spell-Out
- ♦ w introduces as a specifier and incorporates LOC at wP Spell-Out
3 Conclusion

♦ Traditional accounts of head movement (Baker, 1988) cannot account for the structures in Sora, which include subject/agent and multiple argument incorporation.

♦ m-merger (Matushansky, 2006) can derive these structures.

♦ Noun incorporation is driven by the functional head $v$ and feature valuation of [INC] features.

♦ Multiple argument incorporation can be derived by an additional incorporating head $w$.

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