Workshop “Object Positions”
Aarhus, 18 Jan 07

On Object Shift in Icelandic and Partial Iconicity

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(1) Contents

a. An OT-account of Icelandic Object-Shift

b. Bidirectional OT

c. Harmonic Alignment and Local Conjunction

d. Conclusion and Outlook
An OT-account of Icelandic Object-Shift
(2) a. Auk þess sýna þau allt\textorh{a}f viðtal við Clinton í erlendu fréttunum "Besides, in the foreign news they always show interviews with Clinton"

b. \ldots \left[ \text{VP alltVI} \left[ \text{VP} \right. \right. 

\ldots \left[ \text{NP viðtal við Clinton} \right] \ldots \right] \right] \]
(2) a. Auk þess sýna þau alltaf viðtal við Clinton í erlendu fréttunum
"Besides, in the foreign news they always show interviews with Clinton"

b. . . . [VP alltaf [VP tV [NP viðtal við Clinton ] . . . ]] [NPviðtal við Clinton ]

(3) a. Auk þess sýna þau viðtal við Clinton alltaf í erlendu fréttunum
"Besides, interviews with Clinton they always show in the foreign news"

b. . . . [AgrOP [NP viðtal við Clinton ]j [VP alltaf [VP tV tj . . . ] ] ]
(4) *Interpretation of indefinites* (cf. Diesing 1996)

a. “weak”: All foreign newscasts contain interviews with Clinton
(4) *Interpretation of indefinites* (cf. Diesing 1996)

a. “weak”: All foreign newscasts contain interviews with Clinton

b. “strong”: All interviews with Clinton occur on the foreign news
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a. “weak”: All foreign newscasts contain interviews with Clinton

b. “strong”: All interviews with Clinton occur on the foreign news

c. *in situ object* associates (preferably) with *weak* readings
(4) Interpretation of indefinites (cf. Diesing 1996)

a. “weak”: All foreign newscasts contain interviews with Clinton

b. “strong”: All interviews with Clinton occur on the foreign news

c. *in situ object* associates (preferably) with *weak* readings

d. *shifted object* associates (preferably) with *strong* reading

a. \[ \text{(rest.) } (\text{nucl.}) \]

b. \[ [\text{IP } \text{[IP } \text{[VP ]}] ] \]

a.  

b.  

(6) *SCOPING* (cf. Vikner 2001:328)

An element has the (surface) position in the clause that corresponds to its scope
(7)  

<table>
<thead>
<tr>
<th>(7)</th>
<th><strong>input: weak indefinite object</strong></th>
<th><strong>SCOPING</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ a.</td>
<td>... [VP ADV $t_V$ NP]</td>
<td></td>
</tr>
<tr>
<td>☑ b.</td>
<td>... NP $[VP$ ADV $t_V$ $t_j]$</td>
<td>!*</td>
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<tr>
<td>(7)</td>
<td><strong>input:</strong> weak indefinite object</td>
<td><strong>SCOPING</strong></td>
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<td>------------</td>
</tr>
<tr>
<td>☑ a.</td>
<td>. . . [VP ADV $t_V$ NP ]</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>. . . NP$_j$ [VP ADV $t_V$ $t_j$ ]</td>
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<th>(8)</th>
<th><strong>input:</strong> strong indefinite object</th>
<th><strong>SCOPING</strong></th>
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<tbody>
<tr>
<td>a.</td>
<td>. . . [VP ADV $t_V$ NP ]</td>
<td>!*</td>
</tr>
<tr>
<td>☑ b.</td>
<td>. . . NP$_j$ [VP ADV $t_V$ $t_j$ ]</td>
<td></td>
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</tbody>
</table>
(9) a. Auk þess hafa þau allt af sínt viðtal við Clinton í erlendu fréttunum

   b. . . [VP allt [VP sínt [NP viðtal við Clinton ] . . ] ]
(9) a. Auk þess hafa þau **allt**af **viðtal** við Clinton í erlendu fréttunum
   b. . . . [VP alltaf [VP sýnt [NP viðtal við Clinton ] . . . ] ]

(10) a. * Auk þess hafa þau **viðtal** við Clinton **alltaf** sýnt í erlendu fréttun.
(9) a. Auk þess hafa þau **alltaf** sýnt viðtal við Clinton í erlendu fréttunum
   b. . . . [VP alltaf [VP sýnt [NP viðtal við Clinton ] . . . ] ]

(10) a. * Auk þess hafa þau **viðtal við Clinton** alltaf sýnt í erlendu fréttun.
   b. * . . . [AgrOP [NP viðtal við Clinton ] [VP alltaf [VP sýnt t_j . . . ] ] ]

(11) **in situ object** associates with both **weak** and **strong** readings
(12) LICENSING (Vikner 2001:328)

An object must be licensed by being c-commanded by its selecting verb at S-structure
(12) **LICENSING** (Vikner 2001:328)

An object must be licensed by being c-commanded by its selecting verb at S-structure

(13) **LICENSING >> SCOPING**
(14) * input: **weak indefinite object**

<table>
<thead>
<tr>
<th></th>
<th>LICENSING</th>
<th>SCOPING</th>
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<tbody>
<tr>
<td>a.</td>
<td>. . . ADV V NP</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>. . . NP&lt;sub&gt;j&lt;/sub&gt; ADV V &lt;i&gt;t&lt;/i&gt;&lt;sub&gt;j&lt;/sub&gt;</td>
<td>!*</td>
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</table>

<sub>Object Positions (Aarhus 1.07), HM Gärtner</sub>
### (14) input: weak indefinite object

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<td>a.</td>
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<tr>
<td>b.</td>
<td>. . . NP$_j$ ADV V $t_j$</td>
<td>!*</td>
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</table>

### (15) input: strong indefinite object

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</thead>
<tbody>
<tr>
<td>a.</td>
<td>. . . ADV V NP</td>
<td>*</td>
</tr>
<tr>
<td>b.</td>
<td>. . . NP$_j$ ADV V $t_j$</td>
<td>!*</td>
</tr>
</tbody>
</table>
“Clearly, due to the use of defeasible constraints, OT provides a very elegant account of this non-trivial interaction between formal and interpretive constraints. In fact, what SCOPING intuitively does is to enforce disambiguation where possible. Thus, in the domain of Icelandic object-shift, a one-to-one form/meaning match can be seen as "the emergence of the unmarked."
“Constraints should be grounded”
“Constraints should be grounded”

(16) **UNAMBIGUOUS ENCODING (UE) [Icelandic]**

\[ \alpha_{\text{strong}}(x) \rightarrow \alpha_{\text{shifted}}(x) \]
"Constraints should be grounded"

(16) **Unambiguous Encoding (UE) [Icelandic]**

\[ \alpha_{\text{strong}}(x) \rightarrow \alpha_{\text{shifted}}(x) \]

(17) **Iconicity / Division of Pragmatic Labor**

(un)marked forms associate with (un)marked meanings
• UE(16) could be seen as part of a family of disambiguation constraints grounded in pragmatics, i.e. Gricean “Avoid Ambiguity” or “Be Perspicuous” (see Gärtner 2004b, for UE in Tagalog)
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• Input/Output (I/O) constraints like UE are very powerful.

They also tend to have the flavor of being *ad hoc*
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• Input/Output (I/O) constraints like UE are very powerful.

They also tend to have the flavor of being *ad hoc*

(18) **UNAMBIGUOUS ENCODING’ (UE) [Anti-Icelandic]**

\[
\alpha_{\text{weak}}(x) \rightarrow \alpha_{\text{shifted}}(x)
\]
Bidirectional OT
• Associating Forms and Meanings
• Associating Forms and Meanings

(19) *Encoding OT* (Prince and Smolensky 2004)

Meanings $\rightarrow$ Forms
• Associating Forms and Meanings

(19) *Encoding OT* (Prince and Smolensky 2004)

Meanings $\rightarrow$ Forms

(20) *Decoding OT* (Hendriks and de Hoop 2001)

Forms $\rightarrow$ Meanings
• Associating Forms and Meanings

(19) *Encoding OT* (Prince and Smolensky 2004)

Meanings $\rightarrow$ Forms

(20) *Decoding OT* (Hendriks and de Hoop 2001)

Forms $\rightarrow$ Meanings

(21) *Bidirectional OT* (Blutner 2000)

Forms $\rightarrow$ Meanings & Meanings $\rightarrow$ Forms
(22) **Blocking**

a. wrote = WRITE & PAST

b. * writed
(22) **Blocking**

a. wrote = WRITE & PAST

b. * writed

(23) **Partial Blocking ("Iconicity")**

a. kill = KILL & DIRECT CAUSATION

b. cause to die = KILL & INDIRECT CAUSATION
Strong Bidirectional OT

(24) A form-meaning pair \((f,m)\) is \textit{bi-optimal} iff \((f,m) \in \text{Gen}\), and

(Q) there is no other pair \((f',m)\): \((f',m) < (f,m)\), and

(I) there is no other pair \((f,m')\): \((f,m') < (f,m)\)

[ < = “less costly” ]
(25) wrote < writed [ lexical storage vs. derivation ]
(25) wrote < writed [ lexical storage vs. derivation ]

(26) a.〈wrote, WRITE & PAST〉 < *〈writed, WRITE & PAST〉

• *writed is blocked (😊)
(27)  a. kill < cause to die       [ lexical storage vs. derivation ]

            b. DIRECT CAUSATION < INDIRECT CAUSATION
(27)  a. kill < cause to die       [ lexical storage vs. derivation ]

                b. DIRECT CAUSATION < INDIRECT CAUSATION

(28)  a. ⟨kill, DIRECT CAUSATION⟩ < *⟨cause to die, DIRECT CAUSATION⟩
(27)  a. kill < cause to die       [ lexical storage vs. derivation ]  
    b. DIRECT CAUSATION < INDIRECT CAUSATION  

(28) a. 〈kill, DIRECT CAUSATION〉 < *〈cause to die, DIRECT CAUSATION〉  
    b. 〈kill, DIRECT CAUSATION〉 < *〈kill, INDIRECT CAUSATION〉  

• 〈cause to die, INDIRECT CAUSATION〉 is blocked (/)
(27) a. kill < cause to die [ lexical storage vs. derivation ]
   
b. DIRECT CAUSATION < INDIRECT CAUSATION

(28) a. ⟨kill, DIRECT CAUSATION⟩ < *⟨cause to die, DIRECT CAUSATION⟩
   
b. ⟨kill, DIRECT CAUSATION⟩ < *⟨kill, INDIRECT CAUSATION⟩
   
c. *⟨kill, INDIRECT CAUSATION⟩ < *⟨cause to die, INDIRECT CAUSATION⟩
(27)  a. kill < cause to die       [ lexical storage vs. derivation ]

       b. DIRECT CAUSATION < INDIRECT CAUSATION

(28)  a. ⟨kill, DIRECT CAUSATION⟩ < *⟨cause to die, DIRECT CAUSATION⟩

       b. ⟨kill, DIRECT CAUSATION⟩ < *⟨kill, INDIRECT CAUSATION⟩

       c. *⟨kill, INDIRECT CAUSATION⟩ < *⟨cause to die, INDIRECT CAUSATION⟩

       d. *⟨cause to die, DIRECT CAUSATION⟩ <

       *⟨cause to die, INDIRECT CAUSATION⟩
(27)  a. kill < cause to die [ lexical storage vs. derivation ]
     
     b. DIRECT CAUSATION < INDIRECT CAUSATION

(28)  a. ⟨kill, DIRECT CAUSATION⟩ < *⟨cause to die, DIRECT CAUSATION⟩
     
     b. ⟨kill, DIRECT CAUSATION⟩ < *⟨kill, INDIRECT CAUSATION⟩
     
     c. *⟨kill, INDIRECT CAUSATION⟩ < *⟨cause to die, INDIRECT CAUSATION⟩
     
     d. *⟨cause to die, DIRECT CAUSATION⟩ <
        *⟨cause to die, INDIRECT CAUSATION⟩

• ⟨cause to die, INDIRECT CAUSATION⟩ is blocked (〒)
Weak Bidirectional OT

(29) A form-meaning pair \((f,m)\) is super-optimal iff \((f,m) \in \text{Gen}\), and

(Q) there is no other super-optimal pair \((f',m)\): \((f',m) < (f,m)\), and

(I) there is no other super-optimal pair \((f,m')\): \((f,m') < (f,m)\)

[ < has to be transitive and well-founded ]
(30)  a. \( f_1 = \text{in situ (object) [IS]} < f_2 = \text{object-shift [OS]} \)

b. \( m_1 = \text{weak [W]} < m_2 = \text{strong [S]} \)
(30) a. \( f_1 = \text{in situ (object)} [\text{IS}] < f_2 = \text{object-shift} [\text{OS}] \)

b. \( m_1 = \text{weak} [\text{W}] < m_2 = \text{strong} [\text{S}] \)

(31) Economy

a. movement (dependency formation) is costly: [IS] < [OS]

b. type-shift is costly [W] < [S] (van der Does and de Hoop 1998)
Iconicity is not built into constraints like UE but deeply entrenched in the evaluation function (see Appendix).

\[ f_1 \quad IS-W \leftarrow IS-S \]
\[ f_2 \quad OS-W \leftarrow OS-S \]

\[ m_1 \quad m_2 \]

\[ \rightarrow = \text{is less costly than}\]
[→ = is less costly than ]

• non super-optimal forms cannot block others: iconicity is the result
(32) $f_1$ IS-W $\leftarrow$ IS-S

   $\uparrow$                $\uparrow$

$f_2$ OS-W $\leftarrow$ OS-S

$m_1$ $m_2$

[ $\rightarrow =$ is less costly than ]

- non super-optimal forms cannot block others: iconicity is the result
- Iconicity is not built into constraints like UE but deeply entrenched in the evaluation function (see Appendix)
• Weak bidirectional OT fails for cases of ambiguity

(33) $f_1 \quad \text{IS-W} \quad \leftarrow \text{IS-S}

\begin{array}{c|cc}
    & m_1 & m_2 \\
\hline
    f_1 & \text{IS-W} & \leftarrow \text{IS-S} \\
\end{array}$
context can disambiguate; object-shift is sensitive to “topicality”

(Erteschik-Shir 2001): context-dependent markedness of $m$
context can disambiguate; object-shift is sensitive to “topicality”

(Erteschik-Shir 2001): context-dependent markedness of $m$

(34) **TOP**: Weak/Strong indefinites are in-/compatible with a "topical" referent
• context can disambiguate; object-shift is sensitive to “topicality”

(Erteschik-Shir 2001): context-dependent markedness of $m$

\[\text{(34) TOP: Weak/Strong indefinites are in-/compatible} \]

with a "topical" referent

\[\text{(35) TOP >> M} \]

where M is whatever causes $m_1 < m_2$, e.g. SCOPING
(36) a. context: *about*(foreign news)

<table>
<thead>
<tr>
<th></th>
<th>( f_1 )</th>
<th>TOP</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( m_1 )</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>( m_2 )</td>
<td>!*</td>
<td>*</td>
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</tbody>
</table>
(36)  

<table>
<thead>
<tr>
<th></th>
<th>context: about(foreign news)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$f_1$</td>
<td>TOP</td>
<td>M</td>
</tr>
<tr>
<td>$m_1$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$m_2$</td>
<td>!*</td>
<td>*</td>
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b. context: about(interviews with Clinton)

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<tr>
<th></th>
<th>context: about(interviews with Clinton)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$f_1$</td>
<td>TOP</td>
<td>M</td>
</tr>
<tr>
<td>$m_1$</td>
<td>!*</td>
<td></td>
</tr>
<tr>
<td>$m_2$</td>
<td></td>
<td>*</td>
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</table>
• Weak bidirectional OT fails as a theory of grammaticality due to symmetry \((F \rightarrow M & M \rightarrow F)\) (cf. Beaver and Lee 2004)
• Weak bidirectional OT fails as a theory of grammaticality due to symmetry \( (F \rightarrow M \& M \rightarrow F) \) (cf. Beaver and Lee 2004)

• \( \langle f_2, m_1 \rangle, \langle f_2, m_2 \rangle \in \text{Gen} \): one of them surfaces as super-optimal
• Weak bidirectional OT fails as a theory of grammaticality due to symmetry (F → M & M → F) (cf. Beaver and Lee 2004)

• \( \langle f_2, m_1 \rangle, \langle f_2, m_2 \rangle \in \text{Gen} \): one of them surfaces as super-optimal

\[
\begin{array}{|c|c|c|}
\hline
f_1 & IS-W & IS-S \\
\hline
& \uparrow & \uparrow \\
\hline
f_2 & OS-W & OS-S \\
\hline
m_1 & m_2 \\
\hline
\end{array}
\]

(37)

Object Positions (Aarhus 1.07), HM Gärtner
• Weak bidirectional OT fails as a theory of grammaticality due to symmetry (F → M & M → F) (cf. Beaver and Lee 2004)

• \langle f_2, m_1 \rangle, \langle f_2, m_2 \rangle \in \text{Gen}: one of them surfaces as super-optimal
Harmonic Alignment and Local Conjunction
- Icelandic object-shift as "differential object-marking" (Aissen 2003)
• Icelandic object-shift as "differential object-marking" (Aissen 2003)

(39)  *Relational Scale:* Su(bject) > Ob(ject)

[ > = "is more prominent than" ]
Icelandic object-shift as "differential object-marking" (Aissen 2003)

(39) \textit{Relational Scale}: \text{Su(bject)} > \text{Ob(ject)}

[ > = "is more prominent than" ]

(40) \textit{Definiteness Scale}

\text{Pronoun (Pro)} > \text{Name (PN)} > \text{Definite (Def)} > \text{Indefinite Specific (Spec)} > \text{NonSpecific (NSpec)}
(41) *Harmonic Alignment*

a. \( \text{Ob/NSpec} \supset \text{Ob/Spec} \supset \text{Ob/Def} \supset \text{Ob/PN} \supset \text{Ob/Pro} \)

[ \( \supset = "\text{is more harmonic than}" \) ]

b. \( *\text{Ob/PRO} >> *\text{Ob/PN} >> *\text{Ob/DEF} >> *\text{Ob/SPEC} >> *\text{Ob/NSPEC} \)
(41) **Harmonic Alignment**

a. Ob/NSpec ⊃ Ob/Spec ⊃ Ob/Def ⊃ Ob/PN ⊃ Ob/Pro

[ ⊃ = "is more harmonic than" ]

b. *Ob/PRO >> *Ob/PN >> *Ob/DEF >> *Ob/SPEC >> *Ob/NSPEC

- Grammars tend to mark “less harmonic” combinations > DOM / DSM
• Movement is a marking strategy
• Movement is a marking strategy

(42) *IS: Avoid in-situ positions ("hearer economy")
- Movement is a marking strategy

(42) *IS: Avoid in-situ positions ("hearer economy")

(43) STAY: Avoid chain formation ("speaker economy")
• Movement is a marking strategy

(42) *IS: Avoid in-situ positions (“hearer economy”)

(43) STAY: Avoid chain formation (“speaker economy”)

• partiality is enabled through constraint conjunction
• Movement is a marking strategy

(42)  *IS: Avoid in-situ positions (“hearer economy”)

(43)  STAY: Avoid chain formation (“speaker economy”)

• partiality is enabled through constraint conjunction

(44)  Constraint conjunction

\[
\text{eval}(C_1 \& C_2) = * \ \text{iff} \ \left[ \text{eval}(C_1) = * \ \text{and} \ \text{eval}(C_2) = * \right]
\]
Typology of Object Shift Languages

(45)  *Ob/Pro & *Is >> (Stay >>)[Swedish]

*Ob/PN & *Is >>

*Ob/Def & *Is >>

*Ob/Spec & *Is >> (Stay >>)[Icelandic]

*Ob/Nspec & *Is
• partial iconicity results like in Vikner’s system

(46) LICENSING $>>$ *OB/PRO & *IS $>>$ ... $>>$ STAY $>>$ *OB/NSPEC & *IS
• partial iconicity results like in Vikner’s system

(46) LICENSING >> *OB/PRO & *IS >> . . . >> STAY >> *OB/NSPEC & *IS

• Scales are presumably (close to) universals
• partial iconicity results like in Vikner’s system

(46) LICENSING >> *OB/PRO & *IS >> . . . >> STAY >> *OB/N_SPEC & *IS

• Scales are presumably (close to) universals

• Which end of the scale should be morphosyntactically marked?
(47)  *Ob/Pro & Stay >>  (*IS >>)[Anti-Swedish]

    *Ob/PN & Stay >>

    *Ob/Def & Stay >>

    *Ob/SPEC & Stay >>  (*IS >>)[Anti-Icelandic]

    *Ob/NSPEC & Stay
(47)  \*Ob/\text{PRO} & \text{STAY} >> \quad (*\text{IS} >>)[\text{Anti-Swedish}]

\*Ob/\text{PN} & \text{STAY} >>

\*Ob/\text{DEF} & \text{STAY} >>

\*Ob/\text{SPEC} & \text{STAY} >> \quad (*\text{IS} >>)[\text{Anti-Icelandic}]

\*Ob/\text{NSPEC} & \text{STAY}

- Anti-Icelandic is more speaker-economic than Icelandic (“shifts less”)

Q: Is A-I less hearer-economic?
Conclusion and Outlook
Blocking

• Weak (symmetric) Bidirectional OT is best for Partial Blocking
• Unidirectional Alignment or Asymmetric Bidirectional approaches are more successful for Partial Iconicity
• The use of I/O-constraints must be independently grounded see Jäger (2004) and van Rooy (2004): frequency / evolution
Blocking  Partial Blocking
(“Iconicity”)
<table>
<thead>
<tr>
<th>Blocking</th>
<th>Partial Blocking</th>
<th>Partial Partial Blocking</th>
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<tbody>
<tr>
<td></td>
<td>(“Iconicity”)</td>
<td>(“Partial Iconicity”)</td>
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- Weak (symmetric) Bidirectional OT is best for Partial Blocking
- Unidirectional Alignment or Asymmetric Bidirectional approaches are more successful for Partial Iconicity
- The use of I/O-constraints must be independently grounded
  see Jäger (2004) and van Rooy (2004): frequency / evolution
Blocking  Partial Blocking  Partial Partial Blocking
(“Iconicity”)  (“Partial Iconicity”)

- Weak (symmetric) Bidirectional OT is best for Partial Blocking
Blocking  Partial Blocking  Partial Partial Blocking  ("Iconicity")  ("Partial Iconicity")

- Weak (symmetric) Bidirectional OT is best for Partial Blocking

- Unidirectional Alignment or Asymmetric Bidirectional approaches are more successful for Partial Iconicity
Blocking  Partial Blocking  Partial Partial Blocking
   (“Iconicity”)   (“Partial Iconicity”)

• Weak (symmetric) Bidirectional OT is best for Partial Blocking

• Unidirectional Alignment or Asymmetric Bidirectional approaches are more successful for Partial Iconicity

• The use of I/O-constraints must be independently grounded

   see Jäger (2004) and van Rooy (2004): frequency / evolution
Appendix

(48) A form-meaning pair \((f,m)\) is super-optimal* iff \((f,m) \in \text{Gen}, and,

if there are pairs \((f',m) \in \text{Gen} \) or \((f,m') \in \text{Gen} \), \(f' \neq f; m' \neq m\), then

\((Q^*)\) there is a non-super-optimal* pair \((f',m)\): \((f',m) < (f,m)\), or

\((I^*)\) there is a non-super-optimal* pair \((f,m')\): \((f,m') < (f,m)\)
• Anti-Iconicity due to Super-Optimality*

\[(49)\]

\[f_1 \quad \text{IS-W} \quad \leftarrow \quad \text{IS-S}^{\uparrow} \]
\[\uparrow \quad \quad \uparrow \]

\[f_2 \quad \text{OS-W}^{\uparrow} \quad \leftarrow \quad \text{OS-S} \]

\[m_1 \quad m_2\]


