Orphans and the interpretation of anaphora*

Daniel Hardt (Copenhagen Business School)
Line Mikkelsen (UC Berkeley)
Bjarne Ørsnes (Freie Universität Berlin)

Ellips’Event, Stanford University, April 30, 2011

1 Point of Departure

• Is do the same simply a surface realization of the identity requirement on ellipsis?

• No – different with respect to
  1. Remnants
  2. Realized Events
  3. Event Identity

• Consequences for Sloppy Identity/Lambda Abstraction

2 Orphans

Overt VP anaphors (do so/it/the same) allow preposition-marked orphans with antecedent-internal correlates:

(1) You have jilted two previous fiances and I expect you would do the same to me.

\[
\begin{array}{ll}
\text{ANAPHOR} & \text{do the same} \\
\text{ORPHAN} & \text{to me} \\
\text{ANTECEDENT} & \text{jilted two previous fiances} \\
\text{CORRELATE} & \text{two previous fiances}
\end{array}
\]

Correlate is inside antecedent VP ⇒ orphan and antecedent must interact to produce interpretation:

\[\ldots \text{I expect you would jilt me} \]

Orphans are superficially similar to remnants of ellipsis:

(2) I wouldn’t say that to my mother, but I would to you. [pseudo-gapping]

\[\ldots \text{I would say that to you} \]

(3) I know he gave the dresser away, but I don’t know to who. [sluicing]

\[\ldots \text{I don’t know who he gave the dresser to} \]

*This work was made possible by a grant from the Danish Agency for Science, Technology, and Innovation. We are also grateful to John Beavers, Peter Culicover, Michael Houser, Andy Kehler, Irene Heim, Russell Lee-Goldman, Beth Levin, Jason Merchant, Ivan Sag and the audience at CUSP 3 (Stanford October 15, 2010) for feedback, data and ideas. Much of the English data is drawn from the BNC and the Europarl corpus and much of the Danish data comes from KorpusDK and Europarl.
Q: Who did he give the dresser to?
A: To me.

Remnants argued to escape ellipsis by extraction (e.g. Jayaseelan 1990, Merchant 2001, 2004) — orphans too?

No, PP orphans are different from PP remnants of ellipsis; orphan is not extractee, but base-generated adjunct

3 Orphans vs. remnants of ellipsis

Syntactic category No inherent category restriction on remnants of ellipsis:

(5) I wouldn’t say that to my mother, but I would to you. [PP]
(6) You might not believe me, but you will Bob. [DP]
(7) I know she’s pretty tall, but I don’t know how tall. [DegP]
(8) Q: Is he tired or just lazy?
A: Tired. [AP]
(9) Q: What did he say?
A: That we should go ahead without him. [CP]

Orphans must be PPs:

(10) You have jilted two previous fiances and I expect you would do the same to me. [PP]
(11) *You have jilted two previous fiances and I expect you would do the same me. [DP]
(12) *He built a small box to keep his CDs in and I did the same large. [AP]
(13) *The guide came over and told me that I had to stay behind the red line and then the guard did the same that I had to stop taking photos. [CP]

Identity of P For remnants, P is determined by antecedent:

(14) I wouldn’t rely on Harvey, but I would on/*to/*with Frank.
(15) She’s looking at something, but I don’t know at/*to/*for what.
(16) Q: What are you looking at?
A: At/*To/*For this little ant crawling over my cell phone.

For orphans, P is not determined by antecedent, but loosely restricted by thematic relation:

• for is typically used for benefactives:

(17) Why should we not give Ukraine the prospect of membership when we would do the same for Turkey.
(18) Opening up the telecoms market to competition has contributed a great impetus to growth and innovation in the UK and will do the same for Europe as a whole from next year. [in → for]

• to is typically used for patients (Huddleston and Pullum 2002:1533, Culicover and Jackendoff 2005:285)

(19) Which of us on finding our car aerial snapped off by a vandal have not momentarily wanted to do the same to his neck?
Commissioner, you have now suddenly decided to look again at the old alliances, and to do the same to the new ones, in order to establish how far they comply with competition rules.  

- *with* is used for themes (Culicover and Jackendoff 2005:285) and elsewhere.

The fact that President Mugabe wants to stifle inward investment by nationalising the farms, and threatening to do the same with the mines, will do nothing to resolve the economic situation in Zimbabwe.

By penalising the pirating of Canal+ decoders, we effectively created a monopoly on reception. And some people would like to do the same with the Internet.

3.1 Remnants

Remnants as extractees:

(23) You might not believe me, but you will \[vp \[vp believe i_t \] \] Bob\[i_t\] \] (Jayaseelan 1990:65)

(24) I know she’s pretty tall, but I don’t know \[cp how tall \] \[tp she \] \] (Merchant 2004:665)

(25) Q: Is he tired or just lazy? 
A: \[fp tired \] \[tp he \] \] (Merchant 2004:675)

→ no inherent category restriction on remnant; restrictions reduce to subcategorization and restrictions on movement.

→ identity of P in PP remnant is determined by deleted head; no P-shift.

3.2 Orphans

Orphans are base-generated adjuncts to VP:

\[
\text{VP} \quad \text{PP} \\
\text{V} \quad \text{DP} \quad \text{P} \quad \text{DP}
\]

\[
do \quad \text{the same} \quad \text{to/with/for} \quad X
\]

→ orphan is a PP, as opposed to DP, because PP is the syntactic category of adjuncts to VP in English\(^1\).

→ P-shift is possible, because orphan doesn’t inherit P from antecedent.

Adjunct analysis further explains why:

- orphan is optional:

(27) He folded up his jacket and sat on it. I did the same (with mine).

- P is semantically contentful and not the case-marker of.

- orphans allow the same range of Ps wherever they occur:

  - pseudoclefts (Jackendoff 1990:125ff): What he did to/with/for X was VP.

\(^1\)English does allow a fairly restricted set of DP adjuncts with temporal (I saw him this morning) and manner (Don’t talk that way) interpretations.
– predicate questions: What did you do to/with/for X?

– as-clauses (Lee-Goldman 2011)

(28) She’s not above ribbing someone, as she did to me in calling, "Nice face plant Larry. You might work on avoiding that next time."

(29) Or perhaps she got the name of the Chinese American Citizen’s Alliance close, but not quite right, as she had with the Arizona Historical Society’s library?

(30) Yes, just as Bruno claimed for an infinite universe, this finite model has “no center nor edge”.

3.3 do the same vs. ellipsis

Extractee analysis of remnants of ellipsis is attractive because it combines independently motivated processes:

- Pseudo-gapping: Heavy NP-shift + VP ellipsis
- Sluicing: Wh-movement + clausal ellipsis
- Fragments: Focus fronting + clausal ellipsis

Orphans hosted by do the same cannot be analyzed this way.

**Question** Are we forced to posit a do the same to X construction, similar to Culicover & Jackendoff’s rule for orphans with do so?

(31) Syntax: \[ VP [\text{v} \text{ do}] [? \text{ so}] \langle \text{YP}^{\text{ORPH}} \rangle ] \text{CS:} [\text{Action } \mathcal{F}(\ldots); \ldots \langle Y_1 \rangle \ldots ]

“The VP is connected by indirect licensing to an antecedent, the orphan is connected to a target [i.e. correlate; DH, BØ & LM] within the antecedent. ...Within the CS [i.e. the Conceptual Structure; DH, BØ & LM], there is the familiar open function \( \mathcal{F} \) whose content is filled in from the antecedent by indirect licensing and the optional semantic constituent Y corresponding to the orphan falls within the domain of \( \mathcal{F} \).” (Culicover and Jackendoff 2005:289)

**Our answer** A non-constructional analysis is possible and preferable.

4 A non-constructional analysis

4.1 Syntax

The orphan is an adjunct to VP

(32) \[
\begin{array}{c}
\text{VP} \\
\text{VP} \quad \text{PP} \\
\text{V} \quad \text{DP} \quad \text{P} \quad \text{DP} \\
do \quad \text{the same} \quad \text{to/with/for} \quad \Delta \\
X
\end{array}
\]

4.2 Semantics

The presence of the orphan adjunct forces abstraction over the correlate in the antecedent, creating a “slot” for the orphan in the meaning reconstructed for the anaphor.
An example

(33) The governments of the great nations would like to deny a number of smaller countries access to weapons.
They would like to do the same to certain organisations described by them as terrorist.

<table>
<thead>
<tr>
<th>CORRELATE</th>
<th>a number of smaller countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORPHAN</td>
<td>certain organisations described by them as terrorist</td>
</tr>
<tr>
<td>ANTECEDENT</td>
<td>deny a number of smaller countries access to weapons</td>
</tr>
<tr>
<td>ANAPHOR</td>
<td>do the same (as) E</td>
</tr>
</tbody>
</table>

Simplifying assumption: the anaphor hosts an ellipsis, E.
Interpretation in three steps:

1. Lambda abstraction: correlate is replaced by a variable in antecedent

   \( \lambda x \). x deny a number of smaller countries access to weapons \( \Rightarrow \)
   \( \lambda y. \lambda x . x \) deny y access to weapons

2. Semantic reconstruction:\(^2\) antecedent is copied to ellipsis position E, “do the same (as) E”
   
   do the same (as) \( [\lambda y. \lambda x . x \) deny y access to weapons]\(] \)

3. Application: the reconstructed material is of type \( \langle \alpha, \beta \rangle \), the orphan is of type \( \alpha \). Apply reconstructed material to orphan.
   
   \( \lambda x . x \) deny certain organisations described by x as terrorist access to weapons

An alternative analysis Abstraction is done by movement

1. Correlate movement: correlate is moved out of antecedent VP at LF
2. Semantic Reconstruction: antecedent is copied to ellipsis position E
3. Application: apply reconstructed material to orphan.

Abstraction by movement is problematic, because correlate can be inside islands:

(34) You have written off all [our supplementary questions] as statements and you did the same to Mr
Marinos. [Left Branch]

(35) I convened [a seminar at the beginning of June to which all the management authorities throughout
the European Union in charge of objective 1 appropriations were invited]. 500 administrators attended, from all the
management authorities, from the whole of Europe. And I shall do likewise, in the autumn, with the objective 2
management authorities. [Complex NP]

If Abstraction is done by movement, why does it not obey constraints on movement?


\(^2\)In the sense of e.g. Dalrymple et al. 1991, Jacobson 1992, and Hardt 1993.
• But the island violating movement occurs in the antecedent clause, not in the ellipsis clause.

2. Because movement of correlate is covert and covert movement does not obey islands

• But what about the large body of work that argues that covert movement does obey islands (e.g. Breuning and Tran 2006 and references cited there)

5 Realized Events

Observation 1  Do the Same Requires Realized Antecedent Event – other VP Anaphora/Ellipsis forms do not

Realized Antecedent Event

(36) I voted in favour. I appeal to my colleagues to do the same, for the good of European citizens.

\[
\begin{array}{c}
e \\
vote(e,I) \\
past(e) \\
\text{appeal}(i, \text{colleagues,} \\
\hspace{1cm} e1 \\
do(\text{colleagues, } e1) \\
same(e1,e)
\end{array}
\]

(This is ok, because event \(e\) is accessible in the DRS where \(same\) predicate is asserted.)

Intuitively, a discourse referent in box B is accessible from box A, if either A is the same as B, or A is embedded within B. (See Kamp and Reyle 1993 for details.)

Non-Realized Antecedent Event

• Antecedent under attitude verb

(37) I feel it’s important to vote in favour (although I don’t have a vote).

a. *I appeal to my colleagues to do the same for the good of European citizens.

b. I appeal to my colleagues to do so/it/that for the good of European citizens.

\[
\begin{array}{c}
\text{feel}(I, \text{important,} \\
\hspace{2cm} e x \\
vote(x,e)
\end{array}
\]

\[
\begin{array}{c}
\text{appeal}(i, \text{colleagues,} \\
\hspace{1cm} e1 \\
do(\text{colleagues, } e1) \\
same(e1,e)
\end{array}
\]

\(do \text{ the same}\) is ruled out, because event \(e\) is not accessible where \(same\) predicate is asserted.

(see Asher 1986 for details on embedded DRS’s under attitude verbs.)
Everyone who wanted to vote did/did it/did so/*did the same.

Note that 39 with modal subordination is good:

Everyone who wanted to vote wanted their spouses to do the same.

- Antecedent under negations

I can’t go to the meeting and defend the proposal, but I hope you will [vpe] do so/it/that *do the same

*Peter did not jilt his former girlfriend, so I trust he will not do the same to me /so he will do the same to me.

Peter did not jilt his former girlfriend, so I trust he will not do so/it/that to me.

This extends to be the same way (Merchant, p.c.)

Susan is nasty to her cat, and Beth is the same way to her dog. No one in Denmark is nasty to their cat, * but Beth is the same way to her dog. but Beth is that way to her dog. but Beth is.

Susan was nasty to her cat, and she was even though her cat was depressed. * and she was the same way even though her cat was depressed.

Observation 2  Do the Same Cannot have Event-Identity – Other Forms Can

John caught a big fish, and he did VPE/so/it/*the same without any fishing equipment.

Observation 3  Other forms require too with Accessible Antecedent Event

I filed my taxes on time, and I hope you did *(too). I hope you did so/it/that *(too).

(Reminiscent of this fact: I saw a man. Then I saw *a man/another man.)

Observation 4  Sluicing Requires Realized Event; (more or less) Requires Event-Identity

Anne invited someone, but I dont know who. (Merchant (2001:40–1))

Elke came, but we didnt know why. (Merchant (2001:53))

A counterexample to Event-Identity:
She called Ben an idiot, but I don’t know who else. (Merchant (2001:35))

Summary of Observations

<table>
<thead>
<tr>
<th>Form</th>
<th>Realized Antecedent</th>
<th>Event Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 do the same</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>2 VPE do so/it/that</td>
<td>-</td>
<td>+/~</td>
</tr>
<tr>
<td>3 VPE do so/it/that + too</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>4 sluicing</td>
<td>+</td>
<td>+(-)</td>
</tr>
</tbody>
</table>

5.1 Presuppositions and Ellipsis Identity

Presuppositions and “too”

• *too* generates focus-based presuppositions (Kripke 1990, Heim 1992)
  
  HE voted too presupposes \( x \) voted, where \( x \) is some alternative to he

(50) Let \( \phi \) too be an LF, with *too* co-indexed with LF \( \psi_i \). Then \( c + \phi \) too, is defined iff:

(a) \( [[\psi]] \neq [[\phi]] \), (b) \( [[\psi]] \in [[\phi]]^F \), (c) \( c + \psi = c \) (i.e. \( \psi \) is true in \( c \))

(Singh 2008)

Applied to VPE do it/so/that, this explains row 3 of the table.

• (b) identifies an “appropriately contrasting antecedent”

• (c) ensures that the antecedent is true – this takes care of the *Realized Antecedent* condition

• (a) ensures that the antecedent is distinct from the VP anaphora/ellipsis clause: this means that *Event Identity* must not hold

“Do the same” generates presuppositions like “too”

• This explains Row 1.

• Row 2 reflects the idea “Maximize Presuppositions” (Amsili and Beyssade 2006): “too” form presupposes more, namely 50, so it is preferred.

• How can presupposition 50(a) be met?

  – By contrasting subjects
    
    (51) I voted and
    YOU should do the same. [= vote]
    YOU should too
    presupposes \( x \) voted

  – By contrasting orphans
    
    (52) You have jilted two previous fiancés and I expect you would do the same to ME. do it to ME too.

  – By contrasting modals (for *too* only)
    
    (53) Harry should vote, and
    he WILL, too.
    *he will/WILL do the same.

Proposal (cf Heim (1985)) *same* takes scope over VP (including Subject). *too* can take wider scope, including modal.
6 Lambda Abstraction and Sloppy Identity

- (4.2) Interpretation of Orphans requires syntactically free lambda abstraction over correlate

\[ \lambda \text{-abstraction is also needed for sloppy identity} \]

\[(54) \text{ I told John I believed his story/I said I believed his story to John. I did the same with Bill. [told Bill i believed Bill’s story]} \]

\[(55) \text{ John, } \lambda x. \text{ told x i believed x’s story} \]

- Proposal: sloppy identity is always done by free lambda abstraction

6.1 Sloppy identity

Fiengo and May 1994: sloppy reading requires syntactically parallel material connecting controllers with controlled pronoun(s).

Heim and Kratzer 1998: lambda binder results from syntactic movement – syntactic constraints on when a pronoun can be lambda bound.

Sloppy Identity with VP Ellipsis

- Free (unbounded) lambda abstraction for vpa orphan, vpe sloppy controller

- Elbourne/Tomioka: sloppy pronoun is a def desc (if not c-commanded by antecedent) – the \( x.R(x) \), where \( R \) is a salient property.

\[(56) \text{ If John has trouble I help him, if Bill has trouble I don’t.} \]

\[(57) \text{ help the } x.Rx, \text{ where } R = [\lambda x. \text{ has trouble } x] \]

Free lambda abstraction is better alternative: Elbourne/Tomioka approach cant rule out “bad switching” \( \lambda x. \text{ if x has trouble i help x.} \)

\[(58) \text{ If John was making trouble I’d help him, but if Bill was making trouble I wouldn’t.} \]

\[(59) \lambda x. \text{ if x has trouble i help x} \]

Sloppy reading is natural:

\[(60) \text{ If John was making trouble I’d help John, but if Bill was making trouble I wouldn’t help Bill.} \]

\[(61) \lambda x. \text{ if x has trouble i help x} \]

(Consider: Sam often gets upset when students make trouble, and needs help in those situations)

Strict reading is natural:

\[(62) \text{ If John was making trouble I’d help Sam, but if Bill was making trouble I wouldn’t help Sam.} \]

Def desc alternative: can freely pick the relevant property to get the desired sloppy reading, without invoking free \( \lambda \) abstraction. property may or may not be expressed syntactically, but need not be a syntactic copy of another constituent.

Need a parallelism constraint to rule out bad-switching:

\[(63) \text{ If John was having trouble in school I would help Sam but if Bill was having trouble I wouldn’t. [help John]} \]

\[(64) \text{ help THE R Sam, Bill, John} \]

\[(65) \text{ R = Sam if John is making trouble, John otherwise} \]
No Sloppy Identity with Sluicing

(66) Abby said she stopped smoking, but she didn’t say when. [she stopped smoking]
(67) Abby said she stopped smoking last week,
(68) *but Susan didn’t say when. [she stopped smoking]
(69) but Susan didn’t. [say she stopped smoking last week]

68 presupposes Susan stopped smoking at some time, which fails to be satisfied.
69 has no such presupposition.

7 Conclusions

- do the same is not simply a surface realization of the identity requirement on ellipsis
- They differ with respect to
  1. Remnants
  2. Realized Events
  3. Event Identity
- Sloppy identity is always done by free lambda abstraction

References


8 Appendix: Pragmatic Constraints on Orphans/Correspondents

- Orphan/Correspondent identifies a participant which is saliently involved in the described event/state
- Typically theme or theme-like

8.1 Marilyn Monroe Examples

(70) I bought/read a book about Marilyn Monroe, and I did the same with Liz Taylor.

(71) *I lost a book about Marilyn Monroe, and I did the same with Liz Taylor. (from Reinhart 81 p 68)

(72) I always read books about sports stars and I am the same way with film stars.

(73) *I always lose books about sports stars and I am the same way with film stars.

Davies and Dubinsky: extraction out of complement NPs is restricted to elements which can be linked to an argument or participant in the lexical conceptual structure of the head noun (p 2).

Orphan is linked to LCS participant in good examples (bad examples involve concrete book, which has no participants)
8.2 Temporal

(74) *Abby said she would stop smoking by Christmas and Beth did the same with New Year’s.
(75) Abby always promises she’ll quit smoking by Christmas, and Beth does the same with New Year’s.
(76) ?Abby got depressed during Christmas and Beth was the same way with Easter.
(77) Abby gets depressed during Christmas and Beth is the same way with Easter.
(78) ?Abby hit her sister and she did the same to her roommate
(79) Abby always used to hit her sister when she got frustrated, and now she does the same to her roommate
(80) ?Abby was jealous of her sister and Beth was the same way with her roommate.
(81) Abby was always jealous of her sister, and now she is the same way with her roommate.
(82) ?Abby hit her sister and she did the same to her roommate

\[
\text{hit}(\text{abby, sister, e}) \& \ \text{past}(e) \& \ \text{did}(\text{abby, e1}) \& \ \text{same}(e, e1) \& \ \text{theme}(\text{roommate, e1})
\]

\[
\text{set E.} \forall e. e \leq \text{the maximal set of events E.} \text{frustrated(abby, E) } \rightarrow \text{hit(abby, sister, e)}.
\]

(83) Abby always used to hit her sister when she got frustrated, and now she does the same to her roommate

\[
\forall e. e \leq \text{the maximal set of events E.} \text{frustrated( Abby, E) } \rightarrow \text{hit( Abby, sister, e)}
\]

8.3 locatives

(84) John took us to the beach and Bill took us to the park.
(85) John took us to the beach and Bill did the same.
(86) *John took us to the beach and Bill did the same with the park.
(87) John gets nervous when we go swimming at Santa Monica Beach. He’s the same way with Palm Beach.
(88) John loves to take trips to the beach on weekends. He’s the same way with the park.
(89) John used to take trips to the beach whenever he got too stressed with work. Now he does the same with the park.
(90) John made us pay him when he took us to the beach. He did the same with the park.
Orphans are not licensed by the antecedent (2), arguing against syntactic reconstruction in the interpretation of overt VP anaphora. Culicover and Jackendoff (2005) license the orphan in a specific construction rule (p. 289). In contrast we claim that the PP is a syntactic adjunct modifying the agentive main verb do. Orphans are syntactic adjuncts that trigger semantic abstraction over an aboutness-topic in the presence of VP anaphora. Much research has attempted to unify anaphora and ellipsis as either syntactically derived (e.g. Elbourne 2001, 2008, Baltin & van Craenenbrock 2008) or semantically derived (e.g. Hardt 1993, Culicover & Jackendoff 2005). Anaphora is sometimes characterized as the phenomenon whereby the interpretation of an occurrence of one expression depends on the interpretation of an occurrence of another or whereby an occurrence of an expression has its referent supplied by an occurrence of some other expression in the same or another sentence.\[1\] However, these are at best very rough characterizations of the phenomena, since things other than anaphoric expressions satisfy the first characterization and many cases of anaphora fail to satisfy the second. For example, in some sense of “interpretation”, the interpretation of the expression “bank” in the following sentence depends on ...