

# Orphans and the interpretation of anaphora\*

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## 1 Orphans

Some VP anaphors allow preposition-marked orphans:

- (1) You have jilted two previous fiances and I expect you would do the same to **me**.
- (2) Kom smørret i og rør det godt ind i massen. Gør det samme med **osten**. [Danish]  
come butter.the in and stir it well in in mass.the do the same with cheese.def  
*Add the butter and stir it into the mixture. Do the same with the cheese.*

ANAPHOR	<i>do the same</i>	<i>gør det samme</i> ‘do the same’
ORPHAN	<i>me</i>	<i>osten</i> ‘the cheese’
ANTECEDENT	<i>jilted two previous fiances</i>	<i>kom smørret i og rør det godt ind i massen</i> ‘add the butter and stir it into the mixture’
CORRELATE	<i>two previous fiances</i>	<i>smørret</i> ‘the butter’

Correlate is inside antecedent VP  $\Rightarrow$  orphan and antecedent must interact to produce interpretation:

- (1) ... *I expect you would jilt me*
- (2) *Add [the cheese]<sub>i</sub> and stir it<sub>i</sub> into the mixture.*

**Question 1** How does that interpretation come about?

**Question 2** Are there restrictions on which NPs can serve as orphans with VP anaphora and on which Ps introduce them?

Why study VP anaphora with orphans?

- Relatively understudied, especially orphans with VP-internal correlates (Huddleston and Pullum 2002:1533, Culicover and Jackendoff 2005:285–6)
- Revealing about the nature of anaphora: favor semantic analysis over syntactic analysis.

Structure of talk:

- Three-step analysis of interpretation (Question 1)
- Restrictions on orphans (Question 2)
- Conclusions

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## 2 Three-step analysis

**Basic idea** the presence of the orphan forces abstraction over the correlate in the antecedent, creating a “slot” for the orphan in the meaning reconstructed for the anaphor.

### An example

- (3) 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.

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

Assumption: the anaphor hosts an ellipsis, E.

Three steps

1. 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. Reconstruction: 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]<sup>1</sup>

3. Application: the reconstructed material is of type  $\langle \alpha, \beta \rangle$ , the orphan is of type  $\alpha$ . Apply reconstructed material to orphan.

[ $\lambda y. \lambda x. x$  deny y access to weapons] (certain organisations described by them as terrorist)  $\Rightarrow$   
 $\lambda x. x$  deny certain organisations described by x as terrorist access to weapons

### Notes

- i. Abstraction is lambda abstraction and it is triggered by a type mismatch between anaphor and orphan
  - ii. Reconstruction is semantic (following e.g. Dalrymple et al. 1991, Jacobson 1992, Hardt 1993, Culicover and Jackendoff 2005)
  - iii. Choice of abstractee is guided by general discourse constraint (Asher 1993, Asher et al. 2001)
- (4) Maximal Common Theme: Maximize common structure in related utterances.
- iv. The two utterance/clauses in (3) are related by the anaphoric dependency.

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<sup>1</sup>Here we ignore an interesting and potentially important question: does the reconstructed material compose semantically with the anaphor, e.g. via the inaudible *as*, or is the anaphor ignored semantically?

## 2.1 An alternative syntactic analysis

Certain syntactic theories (Elbourne 2001, 2008; Baltin and van Craenenbroeck 2008) view anaphors as the spell-out of a functional head (D, Voice, Focus) whose complement has been ellided under identity with an XP elsewhere (cf. Postal's early analysis of pronouns as intransitive determiners). If so:

1. Abstraction is the result of movement of the correlate out of the antecedent (ala Heim, and Fiengo & May)
2. Reconstruction is syntactic (copying or deletion under identity)
3. Application is semantic

Observation: Correlate can appear in islands, requiring non-standard movement to achieve Abstraction.

### Correlate is possessor (Left-Branch Extraction)

- (5) You have written off all *our* supplementary questions as statements and you did the same to **Mr Marinos**.

CORRELATE	<i>our/us</i>
ORPHAN	<b>Mr Marinos</b>
ANTECEDENT	written off all our supplementary questions as statements

- (6) [written off all our supplementary questions as statements]  $\Rightarrow$   
our [written off all \_\_ supplementary questions as statements].
- (7) \*Who(se) have you [written off all \_\_ supplementary questions as statements]?

### Correlate in relative clause (Complex NP Constraint)

- (8) 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**.

CORRELATE	<i>all the management authorities throughout the EU in charge of objective 1 appropriations</i>
ORPHAN	<b>the objective 2 management authorities</b>
ANTECEDENT [ISLAND]	convened [a seminar ... to which ... appropriations were invited]

- (9) [convened a seminar ... to which NP were invited]  $\Rightarrow$   
NP [convened a seminar ... to which \_\_ were invited]
- (10) \*Who did you [convene a seminar to which \_\_ were invited]?

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

1. Because ellipsis repairs the island violation (Lasnik 2001, Merchant 2001, 2004, Merchant 2008)
  - 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)

In so far as lambda-abstraction is not island sensitive, (5) and (8) are unproblematic for semantic analysis.

### 3 Restrictions on orphans

1. The orphan is marked with one of a small set of prepositions
2. The orphan stands in a certain semantic and/or pragmatic relationship to the reconstructed VP

No syntactic restriction on correlate: DO, IO, complement of governed P, or anywhere inside one of these.

#### 3.1 Prepositional marking

**English** uses *to*, *with*, and *for*

- Huddleston and Pullum (2002:1533): general agentive *do* “can take a *to* PP with the oblique NP associated with the semantic role of patient”
- Culicover and Jackendoff (2005:285): “*to NP* can be used to match a patient”
- Seems exactly right for majority of corpus examples, including (11); cases in (12) are less clear:

- (11)
- a. Which of us on finding our car aerial snapped off by a vandal have not momentarily wanted to do the same **to his neck**?
  - b. We can only criticise others if we have the political courage to do the same **to ourselves**.
  - c. Stands to reason nobody’d dare to bomb us, because, we’d do the same **to them** and they know it.
- (12)
- a. We’ve both become victims of Private Eye and I know that he would laugh at some of the things they’ve said about me, and I’d do the same **to him**.
  - b. we have seen how knowledge of the world (about cats and gates, for example) or of the culture (about social roles and relationships) enables people to make their language function as they intend and to understand how others do the same **to them**.
  - c. 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.
- Note obligatory P shift (*at* → *to*) between correlate and orphan in (12c).
  - Culicover and Jackendoff (2005:285): “*with NP* can be used to match (roughly—we are not sure) a theme”
- (13)
- a. 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** . . .
  - b. Billy had already hand-reared a male cub and successfully released it into the wild. Now he planned to do the same **with the female cub**, who had been given the most unleopard-like name of Harriet.
  - c. 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.
- (14)
- a. The teacher moulds a volunteer to create a still image. The children then do the same **with a partner**.
  - b. Chop Mozzarella into thin slices; do the same **with the tomatoes**.
- Note obligatory P shift (*on* → *with*) in (13a)

- *for* can be used with benefactive orphans (15), but also non-beneficiaries (16)

- (15)
- Why should we not give Ukraine the prospect of membership when we would do the same **for Turkey**
  - 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.
  - As a matter of fact, it is hard to understand why the World Intellectual Property Organization (WIPO) Treaties and Conventions dedicate an enormous range of rights and protection to musical authors, performers and producers and even to radio broadcasting organisations and do not do the same **for audio-visual performers**, who have no international rights other than a single payment for their work.
- (16)
- We have already adopted measures on tyres and aircraft engines and we can do the same **for road surfaces**.
  - By looking at the labels on bottles of mineral water, consumers can perhaps judge whether or not to buy the product, but they cannot do the same **for vegetables and cereals**.
  - Lists have been made of rust-bucket ships. We must now do the same **for aircraft**.

- Note obligatory P shifts (*in* → *for*) in (15b) and (*on/of* → *for*) in (16)

- Conclusions:

- orphans are marked by one of *to*, *with* or *for*
- the restriction to these three Ps also applies when correlate is P-marked (in contrast to sluicing where P-marking of remnant is constrained by P-marking of correlate: *She made fun of someone, but we don't know of/\*to/\*with who.*)
- there is a loose correlation between P-marking and semantic role of orphan

**Danish** orphan marked by one of five Ps:

- *med* ('with') has the widest distribution
- *ved* ('by/at') overlaps with *med* but is more restricted
- *for* ('for') is preferred when orphan is beneficiary
- *mod/imod* ('against') is preferred when orphan is maleficiary.

- (17) Den slags ændringer i historien kan man lave hos Shakespeare. Man vil ikke kunne gøre det samme  
that kind changes in story.DEF can one make at Shakespeare one would not could do the same  
*One could [make that type of change in the story line in Shakespeare]. One wouldn't be able to do that*
- med/ved** Holberg. [neutral]  
with/at Holberg
  - for** Holberg. [change is for the better]  
for Holberg
  - (i)mod** Holberg. [change is for the worse]  
against Holberg

Implicational hierarchy:

- (18) med >> ved >> for/mod/imod
- If an orphan occurs with a preposition on the hierarchy, the orphan can also occur with a preposition higher on the hierarchy.
  - The opposite does not hold.

## 3.2 Relation to VP

Not every correlate makes for a good orphan:<sup>2</sup>

- (19) I took my mother to the beach.  
a. Frank did the same for/with **his mother**.  
b. ??Frank did the same for/with/to **the fair**.
- (20) One of the duelists decided on a traditional pistol. The other did the same ??with/?\*for/\*to **a rifle**.
- (21) My article opens with a sharp criticism of prior research. Kim's paper does the same ??with/?\*for/\*to **a more balanced discussion**.

Hypothesis: Orphans must be affected by the eventuality denoted by the anaphor

### Affectedness

- Beavers (to appear) (see also Anderson 2006, Levin and Rappaport 2006):
    - an argument is affected iff it is a force-recipient whose change is measured out by a scale introduced by the verb
    - the scale can be a location, a property or an extent
    - predicates vary as to whether they specify a quantized change, a non-quantized change or a potential change.
- ⇒ orphans must undergo some change (quantized change, non-quantized change or potential change).
- correctly rules in (19a) (and (11)–(16))
  - correctly rules out (19b), (20) and (21)
  - wrongly rules out (22; hide a secret), (23; perceive a species), and (24; understand a position) where orphan appears to not undergo any change:

- (22) Når han i så mange år havde kunnet [skjule sin frygtelige hemmelighed, også for hende], kunne hun when he in so many years had could hide his terrible secret also for her could she gøre det samme **med sin**. do the same with hers  
*When he, for so many years, had been able to [hide his terrible secret from her], she could do the same with hers.*
- (23) Aristoteles mener, at vi kan [erkende arten], som jo er det, der er fælles for en gruppe Aristotle believes that we can perceive species.DEF as exactly is that which is common for a group fænomener, fx. katte, ved at abstrahere fra de uvæsentlige egenskaber [...] Men vi kan mere end det: phenomena e.g. cats by to abstracting from the unessential properties [...] but we can more than that vi kan nemlig gøre det samme **med forskellige arter** og nå til højere almenbegreber. we can in.fact do the same with different species and reach to higher general.concepts  
*Aristotle believes that we can [perceive the species], which is what is common to a group of phenomena, e.g. cats, but abstracting from the inessential properties ... But we can do more than that: we can do the same with different species and reach general concepts.*
- (24) I try my best to [understand my opponent's positions on the issues], and I expect him to try to do the same **with my positions**.

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<sup>2</sup>Independent of the presence of an orphan, *do the same* requires an "actional" antecedent, presumably because main verb *do* is involved (Ross 1972). Danish *gøre* is compatible with stative antecedents (like *ligne* 'resemble'), as is *gøre det samme* as long as *det samme* is fronted.

- Orphans with DO correlates appear to be special in this regard
- Orphans with locative PP correlates do exhibit affectedness effect:

- (25) Han kom salt i risene og bagefter gjorde han det samme med ratatouillen.  
 he came salt in rice.DEF and afterwards did he the same with ratatouille.DEF  
*He put salt in the rice and afterwards he did the same with the ratattouille.*
- (26) \*De satte systemkritikeren i husarrest og senere gjorde de det samme med fængsel.  
 they put system.critic.DEF in house.arrest and later did they the same with prison  
*\*The put the dissident under house arrest and later they did the same with jail.*

## 4 Conclusions

- orphans support a semantic theory of VP anaphora
- orphan must be marked by one of a small number of prepositions
- not all correlates make for good orphans; more work needed to articulate the exact restrictions

**Final observation** *do the same* seems especially suited to host orphans with VP-internal correlates compared with VP ellipsis (27), *do so* (28), and Danish *gøre det* (29).

- (27) I wouldn't trust SUSAN with my business secrets, but I would **with JANE**
- (28) If you're the type to [run around calling people sisies], you learn pretty quickly to avoid doing so **to hard drinkin' type guys**.
- (29) Og så kan hun [få en mand til at føle sig som verdens hersker]. Jeg har set hende gøre det **ved alle mine papfædre**.  
 all my cardboard.fathers  
*She can [make a man feel like the king of the world]. I have seen her do that **to all my step dads**.*

- (How) does this follow from the semantics of *same*?

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