

# Linguistic orphans: composition or construction?\*

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## 1 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.

ANAPHOR	<i>do the same</i>
ORPHAN	<i>me</i>
ANTECEDENT	<i>jilted two previous fiances</i>
CORRELATE	<i>two previous fiances</i>

Challenges for syntax-semantics mapping:

- Correlate is inside antecedent VP  $\Rightarrow$   
orphan and antecedent must interact to produce interpretation: *and I expect you would **jilt me***
- Orphan and correlate are both interpreted as Patient arguments, but differ syntactically: PP vs. NP

**Today's question** Is 'do the same to X' a CONSTRUCTION—i.e. a fixed pairing of form and meaning—or is it composed by general syntactic and semantic rules?

### Larger questions

1. To what extent is syntax autonomous and general?
2. To what extent is semantics compositional?
3. What units are manipulated by syntax?
  - Mainstream generative tradition (Chomsky 1957, Montague 1974 and onwards)
    1. Syntax is fully autonomous and general.
    2. Semantics is fully compositional (rule isomorphism, only sisters compose).
    3. Syntax manipulates words (and bound morphemes).
  - Construction Grammar (Fillmore 1985), Sign-Based Construction Grammar (Boas and Sag to appear), Simpler Syntax (Culicover and Jackendoff 2005).
    1. Syntax is partly autonomous and somewhat particular.
    2. Semantics is partly compositional.
    3. Syntax manipulates constructions, which can be of any size (morphemes, words, phrases, suprasentential chunks).

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## 2 Constructional analysis of orphans

- How do we recognize a construction when we see one?

[C]onstructions [are] often endowed with properties which are not independently determined by facts about their constituency or their derivation. (Fillmore 1985:73)

- Some proposed constructions (proposed by/deconstructed by):

1. THE HECK intrusion (Fillmore 1985/den Dikken and Giannakidou 2002)

(2) What the heck did you fix it with?

2. let alone (Fillmore et al. 1988/Toosarvandani 2010)

(3) I doubt you could get FRED to eat squid, let alone LOUISE.

3. What's X doing Y? (Kay and Fillmore 1999/ ?)

(4) What is this scratch doing on the table?

4. The X-er, the Y-er. (Culicover and Jackendoff 1999/den Dikken 2005)

(5) The more you eat, the less you want.

5. Bare Argument Ellipsis (Culicover and Jackendoff 2005/Merchant 2004)

(6) Q: Has Harriet been drinking again?  
A: Yeah, scotch.

- Possible constructional properties of 'do X to Y'

1. Verb must be main verb *do*; auxiliaries don't work:

(7) You have jilted two previous fiances and . . .  
a. \*I suspect he has the same to his.  
b. \*I suspect you will the same to me.

2. Orphan NP has argument semantics—patient, theme, or benefactive—, but not argument syntax: PP instead of NP:

(8) You have jilted two previous fiances and I expect you would do the same \*(to) me. [PATIENT]

(9) North Korea has sold medium-range SCUD missiles to Iran and Syria and it could do the same \*(with) the Rodong. [THEME]

(10) If you hope people will re-tweet what you write, you have to do the same \*(for) other people. [BENEFACTIVE]

3. Orphan interpretation is guided by correlate, but correlate need not be an argument (or even dependent!) of the antecedent verb:

(11) And he banged the receiver in **her** ear before she could do the same to him.

(12) If you hope people will re-tweet what **you** write, you have to do the same for other people.

Construction rule (based on Culicover & Jackendoff's (2005:298) rule for orphans with *do so*):

(13) Syntax: [VP [V do][NP the same] <PP<sup>ORPH</sup>>] Conceptual Structure: [Action  $\mathcal{F}(\dots)$ ; ... <Y<sub>i</sub>>... ]

where:

- a. <X> marks X as optional
- b.  $\mathcal{F}$  is an open function whose content is filled in by the antecedent (indirect licensing)
- c. PP is the orphan and it is connected to a correlate via the optional semantic constituent Y in the domain of  $\mathcal{F}$

The rule in (13) specifies

1. the verb as *do*, ruling out auxiliaries
2. the orphan as a PP, ruling out NPs
3. the correlate semantically; no syntactic restriction on correlate

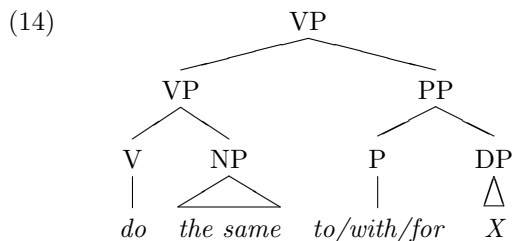
Thematic contribution of orphan P not expressed, but could be done by linking identity of P to interpretation of Y:

- ... P<sub>for</sub>P<sub>i</sub> ... <Y<sub>i</sub><sup>BENEFACTIVE</sup>>
- ... P<sub>to</sub>P<sub>i</sub> ... <Y<sub>i</sub><sup>PATIENT</sup>>
- ... P<sub>with</sub>P<sub>i</sub> ... <Y<sub>i</sub><sup>THEME</sup>>

### 3 A compositional analysis

Hardt et al. (2011) propose a compositional analysis

**Syntax** The orphan is an adjunct to VP



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

- |         |                      |  |
|---------|----------------------|--|
| Step 1. | ABSTRACTION          | [jilt two previous fiances] ⇒ [jilt x] |
| Step 2. | RECONSTRUCTION       | do the same to me ⇒ [jilt x] (me)      |
| Step 3. | FUNCTION APPLICATION | [jilt x] (me) ⇒ [jilt me]              |

This analysis is compositional because:

- adjunction is a general syntactic mechanism
- lambda abstraction is a general semantic mechanism (used e.g. in interpretation of relative clauses and sloppy identity)

## 4 Advantages of a compositional analysis

The following observations are explained by the compositional analysis, but must be stipulated in the constructional analysis:

**1. P-marking** It is characteristic of adjuncts to VP that they are PPs and not NPs.<sup>1</sup> If orphans are adjuncts to VP, we expect them to be PPs and not NPs:

- (15) You have jilted two previous fiances and I expect you would ...
- a. do the same to me.
  - b. \*do the same me.

**2. Optionality** It is characteristic of adjuncts that they are optional. If orphans are adjuncts, we expect them to be optional and they are:

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

**3. Iteration** Another characteristic of adjuncts is that they may iterate. If orphans are adjuncts, we thus expect multiple orphans to be possible and they are:

- (17) I convened convened a seminar [<sub>CORR.</sub> 1 at the beginning of June] to which [<sub>CORR.</sub> 2 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, [<sub>ORPH</sub> 1 **in the autumn**], [<sub>ORPH</sub> 2 **with the objective 2 management authorities**].

**4. P-range** The preposition *of* only heads complement PPs. If orphans are adjunct PPs, we explain why *of* isn't among the orphan-marking prepositions.

- (18) First I introduced myself to every relative of the bride and then I did the same with/\*of the groom.

**5. Stability of P-range** It is characteristic of adjuncts that their form is independent of their host. If orphans are adjuncts we expect them to have the same range of prepositions wherever they occur and they do:

- (19) What she did **to/with/for** Harvey was edit his manuscript.
- (20) What did you do **to/with/for** Harvey?
- (21)
- a. 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."
  - b. 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?
  - c. Yes, just as Bruno claimed **for** an infinite universe, this finite model has "no center nor edge".

**6. Syntactic freedom of correlate** Lambda abstraction is semantic. If correlates are identified by lambda abstraction, as opposed to syntactic movement, we do not expect correlates to be syntactically restricted, as indeed they are not (also (17)):

- (22) And he banged the receiver in **her** ear before she could do the same to him. [possessor]
- (23) If you hope people will re-tweet what **you** write, you have to do the same for other people. [subject of free relative]

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<sup>1</sup>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. Adjunct clauses (*... because/when/if/even though he left.*) are adjoined above VP, so their syntactic category is irrelevant for our claim.

## 5 Challenges for a compositional analysis

**1. Restrictions on hosts** If the orphan PP is a VP adjunct, we might expect it to be possible w. every type of VP, but it isn't:

- (24) ??One of the duelists decided on a traditional pistol, though the other **did the same** for/with/to a rifle.  
(25) \*You have jilted to previous fiances and I suspect you **would** \_\_\_ to me too.  
(26) \*He **sneezed** to me.

These examples reveal three kinds of restrictions on orphans:

- (24) violates the ABOUTNESS RESTRICTION (Hardt et al. 2011 p. 6):

An orphan is felicitous only if it can be interpreted as what the clause is about.

The second clause of (24) cannot be interpreted as being about a rifle and that's why it is infelicitous.

- In (25) the orphan is hosted by an ellided VP. Why can VP ellipsis not host orphans, if overt VP anaphors can?
  - VPE is a surface anaphor; overt VP anaphors are deep anaphors (Houser, 2010)
  - surface anaphors have articulated internal syntax, deep anaphors do not
  - (25) is illformed because the host VP already has a patient argument and consequently *to me* can't be interpreted as supplying the patient to an unsaturated VP meaning.
  - VP ellipsis is not interpreted by semantic reconstruction, hence lambda abstraction over the correlate can not create a slot for orphan.
- (26) involves an intransitive verb *sneeze* is intransitive. Since there is no patient argument to lambda abstract over, there is no semantic room for the orphan.

### 2. Why *to*, *with*, and *for*?

- Those are the prepositions that can introduce Patients, Themes and Benefactives (Jenny Lederer, p.c. October 16, 2011)
  - (27) a. Give a good kick **to the door**!  
b. Kick **the door**!
  - (28) a. Don't fiddle **with your phone** during class!  
b. Don't touch **your phone** during class!
  - (29) a. Would you bake a cake **for me**?  
b. Would you bake **me** a cake?
- Maybe the thematic information is encoded in each of these prepositions in a Neo-Davidsonian format (Amy Rose Deal, p.c. April 30, 2011)

### 3. Construction-dependent semantics of P Ray Jackendoff (p.c. June 25, 2011)

“Well, here’s the thing: with *do*, *to* goes with patients and *for* with beneficiaries:

- (30) He did something nasty *to*/\**for* Bill. [unless Bill has ordered him to do something nasty, which makes it *to* Bill’s benefit after all]
- (31) He did something nice *for*/?*to* Bill. [unless Bill hates being treated well, in which case he’s adversely affected after all]

But with *happen*, *for* is impossible and *to* stands in for both:

- (32) Something nice/nasty happened *to*/\**for* Bill.

So the prepositions \*don’t\* have a constant thematic meaning. Also, I don’t think there is a counterpart of the patient *to* adjunct with other verbs than *do* and *happen*. And I’m not sure, but I suspect beneficiary *for* adjuncts with other verbs don’t have quite the same semantic range as they do with *do*. E.g.

- (33) He did something nice for Susan: he wrote a good review of her book.  
vs.
- (34) He wrote a good review of Susan’s book for her.

[don’t mean the same]

So my guess is that these particular meanings are specific to *do*, *happen*, and maybe a couple other configurations. I haven’t checked out *with*, but I suspect it’s the same story. If that’s right, you end up with essentially an idiom or construction.”

A possible line of response:

- P semantics is stable, but broad enough that composition with semantically different VPs can yield different interpretation of orphan.
- For instance, *do* denotes volitional action, *happen* denotes non-volitional action.
- *for* might be sensitive to this distinction, adjoining only to volitional VPs.

If carried through, this response would restore a compositional analysis, because it derives the properties of the whole from the properties of the parts and the way they are put together, cf. Fillmore’s definition of a construction.

#### A Possibly Relevant Wrinkle Corpus data shows

- theme interpretation of *for*-marked orphans (inanimates only):

- (35) To control for potential time-varying effects of the initial values, we entered an interaction term between the initial centered hard drug arrest rate values and time. We did the same **for unemployment rate data**.
- (36) What would thrill people about space exploration – surely it would be the discovery of life on another planet. Why shouldn’t we be doing the same **for planet earth**? And this is going to be fun.

- benefactive interpretation of *to*-marked orphan:

- (37) South Korea Has Decided to extend the Period of visa-free entry for Hong Kong citizens, and in turn, Hong Kong will do the same **to South Korean people**.

- benefactive and patient interpretation of *with*-marked orphans (humans only):

(38) At CityZen, in the District’s Mandarin Oriental hotel, executive chef Eric Ziebold supports local farmers and has struggled to do the same **with area vintners**.

(39) I mean, they imagined we could have bought and sold them. The Chinese couldn’t do the same **with us**.

Does the orphan preposition carry a thematic role? Is there an animacy effect?

These empirical questions arise for constructional and compositional approaches alike, though analytical options for dealing with the answers differ.

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