

## What does silence look like? On the unpronounced syntax of sluicing

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### MAIN TOPIC

The precise form of unpronounced syntactic structures in sluicing

### CENTRAL PARADOX

- There is evidence suggesting that the unpronounced syntactic structure in sluicing can consist of a copular clause rather than a full wh-question.
- This observation seems to be contradicted by languages with morphological case marking on wh-phrases.

### MAIN GIST OF THE ANALYSIS

Elements that are moved out of an ellipsis site are subject to an additional, morphological licensing requirement.

### OUTLINE OF THE TALK

1. Introduction: ellipsis and isomorphism
2. The hidden syntax of sluicing: Merchant (2001)
3. Merchant's arguments revisited: the importance of morphological case
4. Evidence for unpronounced copular clauses in sluicing
5. Interim summary: the paradox
6. The analysis: interactions between lack of isomorphism and morphology
7. Predictions of the analysis
8. Two challenges for semantic isomorphism: Merchant (2006) and Chung (2005)
9. Summary and conclusions

### 1. Introduction: ellipsis and isomorphism

- (1) John saw someone, but I don't know who.

**question:** assuming there is unpronounced syntactic structure in sluicing, how can we determine what exactly it looks like?

**option (i):** the sluiced clause in (1) is derived from a regular, full wh-question (Ross 1969, Merchant 2001):

- (2) John saw someone, but I don't know who ~~John saw~~.

**option (ii):** the sluiced clause in (1) is derived from an underlying copular clause (Erteschik-Shir 1977, Pollman 1975):

- (3) John saw someone, but I don't know who ~~it was~~.

**more generally:** the question raised here is to what extent or in what way an ellipsis site has to be isomorphic or parallel to its antecedent:

**Fiengo & May (1994), Merchant (2006):** structural, syntactic parallelism is required  
→ only option (i) is allowed

**Merchant (2001):** the isomorphism requirement is semantic (mutual entailment)  
→ both option (i) and option (ii) are allowed

### in this talk:

- I argue that both (2) and (3) are viable analyses of the example in (1)
- and hence, that the isomorphism requirement on sluicing is semantic rather than syntactic

### 2. The hidden syntax of sluicing: Merchant (2001)

**Merchant (2001:115-127)** presents 10 arguments against the analysis sketched in (3)

**preliminary note:** Merchant takes to the underlying structure in (3) to be a reduced cleft, cf. (5). I follow Mikkelsen (2004:173-192) in taking them to be a subtype of specificational copular clauses (and hence, that no ellipsis of CP has taken place in these cases, cf. also Merchant 2001:117-119 on the implausibility of such an ellipsis operation). Put differently, (4) and (5) are not derivationally related.

- (4) John saw someone, but I don't know who it was.
- (5) John saw someone, but I don't know who it was that John saw.



### 3. Merchant's arguments revisited: the importance of morphological case

#### 3.1 Three possible scenarios

**note:** Merchant's arguments are explicitly presented as problems for the scenario in (19)a, implicitly as support for the scenario in (19)b, and they remain agnostic about the scenario in (19)c.

- (19) a. **ALWAYSCOPULA:** The structure underlying sluicing is always a copular clause.  
 b. **ALWAYSWH:** The structure underlying sluicing is always a full wh-question.  
 c. **OPTIONALITY:** The structure underlying sluicing can be either a copular clause or a wh-question (and the choice between them is free).

#### 3.2 Revisiting Merchant's arguments from a multi-scenario perspective

##### 1. else-modification

- (20) Harry was there, but  
 a. **sluicing:** I don't know who else.  
 b. **copular clause:** \* I don't know who else it was.  
 c. **wh:** I don't know who else was there.

	ALWAYSCOPULA	ALWAYSWH	OPTIONALITY
else-modification	*	ok	ok

##### 2. adjuncts and implicit arguments

- (21) a. **sluicing:** He fixed the car, but I don't know how.  
 b. **copular clause:** \* He fixed the car, but I don't know how it was.  
 c. **wh:** He fixed the car, but I don't know how he fixed the car.
- (22) a. **sluicing:** They served the guests, but I don't know what.  
 b. **copular clause:** \* They served the guests, but I don't know what it was.  
 c. **wh:** They served the guests, but I don't know what they served the guests.

	ALWAYSCOPULA	ALWAYSWH	OPTIONALITY
adjuncts & implicit arguments	*	ok	ok

#### 3. prosody

- (23) Someone gave me a valentine, but  
 a. **sluicing:** I don't know WHO.  
 b. **copular clause:** \* I don't know WHO it was.  
 c. **wh:** I don't know WHO gave me a valentine.

	ALWAYSCOPULA	ALWAYSWH	OPTIONALITY
prosody	*	ok	ok

#### 4. 'mention some'-modification

- (24) A: You should talk to somebody in the legal department for help with that.  
 B: a. **sluicing:** Who, for example?  
 b. **copular clause:** \* Who is it, for example?  
 c. **wh:** Who should I talk to, for example?

	ALWAYSCOPULA	ALWAYSWH	OPTIONALITY
'mention some'-modification	*	ok	ok

#### 5. aggressively non-D-linked wh-phrases

- (25) Someone dented my car last night–  
 a. **sluicing:** \* I wish I knew who the hell!  
 b. **copular clause:** I wish I knew who the hell it was!  
 c. **wh:** I wish I knew who the hell dented my car!

	ALWAYSCOPULA	ALWAYSWH	OPTIONALITY
aggressively non-D-linked wh	*	*	*

#### 5. 'mention all'-modification

- (26) A bunch of students were protesting,  
 a. **sluicing:** \* and the FBI is trying to find out who all.  
 b. **copular clause:** and the FBI is trying to find out who all it was.  
 c. **wh:** and the FBI is trying to find out who all was protesting.

	ALWAYSCOPULA	ALWAYSWH	OPTIONALITY
'mention all'-modification	*	*	*

7. *swiping* (sluiced *wh*-word inversion with prepositions in northern Germanic)

- (27) She bought a robe, but
- a. **sluicing:** God knows who for.
  - b. **copular clause:** \* God knows who for it was.
  - c. **wh:** \* God knows who for she bought a robe.

	ALWAYSCOPULA	ALWAYSWH	OPTIONALITY
<i>swiping</i>	*	*	*

8. *left-branch sluices*

- (28) He married a rich woman –
- a. **sluicing:** wait till you hear how rich!
  - b. **copular clause:** \* wait till you hear how rich it is!
  - c. **wh:** \* wait till you hear how rich he married a woman!

	ALWAYSCOPULA	ALWAYSWH	OPTIONALITY
<i>left-branch sluicing</i>	*	*	*

8. *languages with limited or no cleft strategy*

**sluicing**

- (29) Er hat mit jemandem gesprochen – rate mal mit wem!  
 he has with someone spoken guess PRT with who  
 'He spoke with someone – guess with whom?' (German)

**copular clause**

- (30) Er hat mit jemandem gesprochen – rate mal mit wem es war!  
 he has with someone spoken guess PRT with who it was  
 'He spoke with someone – guess with whom it was?' (German)

**wh**

- (31) Mit wem hat er gesprochen?  
 with who has he spoken  
 'With whom did he speak?' (German)

	ALWAYSCOPULA	ALWAYSWH	OPTIONALITY
<i>languages with limited or no clefts</i>	ok	ok	ok

10. *case matching*

- (32) I astinomia anekrine enan apo tous Kiprious prota,  
 the police interrogatedone.ACC from the Cypriots first  
 ala dhen ksero  
 but not I.know
- a. **sluicing:** { \*pjos / pjon }  
 who.NOM who.ACC
  - b. **copular clause:** { pjos / \*pjon } itan.  
 who.NOM who.ACC it.was
  - c. **wh:** { \*pjos / pjon } anekrine i astinomia.  
 who.NOM who.ACC interrogatedthe police

	ALWAYSCOPULA	ALWAYSWH	OPTIONALITY
<i>case matching</i>	*	ok	*

3.3 Summary and conclusions

	ALWAYS COPULA	ALWAYS WH	OPTIONALITY
<i>else-modification</i>	*	ok	ok
<i>adjuncts &amp; implicit arguments</i>	*	ok	ok
<i>prosody</i>	*	ok	ok
<i>'mention some'-modification</i>	*	ok	ok
<i>aggressively non-D-linked wh-phrases</i>	*	*	*
<i>'mention all'-modification</i>	*	*	*
<i>swiping</i>	*	*	*
<i>left-branch sluices</i>	*	*	*
<i>languages with limited or no clefts</i>	ok	ok	ok
<i>case matching</i>	*	ok	*

Conclusions:

- (i) The data argue strongly against ALWAYS COPULA.
- (ii) When taken at face value, **four of Merchant's arguments are incompatible with all scenarios** ⇒ in those cases the discrepancy between ellipsis (sluicing) and non-ellipsis (wh-question and copular clause) must be due to independent factors

e.g. the lack of aggressively non-D-linked wh-phrases in sluicing follows from the prosodic properties of *the hell* (Sprouse 2005, cf. also Den Dikken & Giannakidou 2002:42-43 for discussion)

e.g. the lack of non-elliptical swiping is due to a repair effect induced by ellipsis (Van Craenenbroeck 2004:73-75), or to the e-GIVENNESS of ellipsis forcing overt focus movement (Hartman & Ai 2007) (cf. also Merchant 2002 for discussion)

e.g. the possibility of left-branch extraction under sluicing is a repair effect induced by ellipsis (Kennedy & Merchant 2000; Merchant 2001:163-183)

(iii) When those four criteria are factored out, the only argument suggesting that copular clauses cannot be used (even optionally) as the underlying structure for a sluice is morphological case:

- (33) I astinomia anekrine enan apo tous Kiprious prota,  
 the police interrogated one.ACC from the Cypriots first  
 ala dhen ksero  
 but not I.know
- a. **sluicing:** { \*pjos / pjon }  
                   who.NOM    who.ACC
  - b. **copular clause:** { pjos / \*pjon } itan.  
                           who.NOM    who.ACC it.was
  - c. **wh:** { \*pjos / pjon } anekrine i astinomia.  
                   who.NOM    who.ACC interrogated the police

4. Evidence for unpronounced copular clauses in sluicing

4.1 Introduction

**note:** for an example like (34) it's hard to tell if it derives from (35)a or from (35)b because (a) both possible sources are well-formed, and (b) they mean (virtually) the same thing

- (34) John saw someone, but I don't know who.
- (35) a. John saw someone, but I don't know who John saw.  
       b. John saw someone, but I don't know who it was.

**prediction:** if copular clauses can indeed be used as underlying structures in sluicing, they should be detectable (a) when the copular clause and the wh-question differ in meaning, and (b) when the wh-question is independently unavailable as source

4.2 The two sources differ in meaning

**observation:** sluicing is often ambiguous depending on the size of the antecedent that is elided

- (36) John said that Mary left, but I don't know why.
- (37) a. ...but I don't know why ~~John said that Mary left.~~
- b. ...but I don't know why ~~Mary left.~~

**however:** in some cases differences in size of the antecedent correlate with the difference between having the ellipsis site be isomorphic to the antecedent vs. using a copular structure (typically, depending on whether ellipsis takes a clausal or a nominal antecedent)

- (38) John received a book, but I don't know from which author.
- (39) a. ...but I don't know from which author ~~John received a book.~~
- b. ...but I don't know from which author ~~it (= the book) was.~~
- (40) They were arguing over a collaboration, but I don't know with who.
- (41) a. ...but I don't know with who ~~they were arguing over a collaboration.~~
- b. ...but I don't know with who ~~it (= the collaboration) was.~~
- (42) John was given a book, but I don't know by who.
- (43) a. ...but I don't know by who ~~John was given a book.~~
- b. ...but I don't know by who ~~it (= the book) was.~~

**conclusion:** when the two possible sources for sluicing are sufficiently distinct in meaning, cases of non-isomorphism between antecedent and ellipsis site become detectable and are indeed detected

4.3 The isomorphic antecedent is unavailable as source

4.3.1 P-stranding

4.3.1.1 Introduction: Merchant's (2001) P-stranding generalization

- (44) **P-stranding generalization (PSG)** (Merchant 2001:92)  
A language *L* will allow preposition stranding under sluicing iff *L* allows preposition stranding under regular wh-movement.

**English: P-stranding**

- (45) Peter was talking with someone, but I don't know (with) who.
- (46) Who was Peter talking with?

**Greek: no P-stranding**

- (47) I Anna milise me kapjon, alla dheksero \*(me) pjon.  
the Anna spoke with someone but not I.know with who  
'Anna spoke with someone, but I don't know with who.'
- (48) \* Pjon milise me?  
who she.spoke with  
INTENDED: 'Who did she speak with?' (Greek, Merchant 2001:94)

4.3.1.2 Apparent exceptions to the PSG: copular clauses to the rescue

**Spanish** (Nevins, Rodriguez & Vicente 2007, Vicente 2008)

**no P-stranding in regular wh-questions**

- (49) \* ¿Qué chica rubia ha hablado Juan con?  
what girl blonde has talked Juan with  
INTENDED: 'What blonde girl did Juan talk to?'

**P-stranding under sluicing**

- (50) Juan ha hablado con una chica rubia, pero no sé cuál  
Juan has talked with a girl blonde but not know which  
'Juan talked to a blonde girl, but I don't know which.'

**Vicente (2008):** P-stranding violations under sluicing in Spanish do not derive from a regular wh-question, but from an underlying copular clause:

- (51) Juan ha hablado con una chica  
Juan has talked with a girl  
pero no sé cuál ~~es pro.~~  
but not know which is it  
'Juan talked to a girl, but I don't know which girl it was.'

**prediction:** if the only available underlying structure in (51) is a copular clause, then blocking the copular clause should result in ungrammaticality

**the relevant context: copular clauses are incompatible with *else*-modification**

- (52) \* Juan ha hablado con una chica rubia, pero no sé  
 Juan has talked with a girl blonde but not know  
 qué chica más es *pro*.  
 what girl else is it  
 \*‘Juan talked to a blonde girl, but I don’t know to what other girl it was.’

**the prediction confirmed: no P-stranding under sluicing with *else*-modification**

- (53) \* Juan ha hablado con una chica rubia, pero no sé  
 Juan has talked with a girl blonde but not know  
 qué chica más.  
 what girl else  
 ‘Juan talked to a blonde girl, but I don’t know what other girl.’

**the control: *else*-modification is allowed in regular (= non-P-stranding) sluicing**

- (54) Juan ha hablado con una chica rubia, pero no sé  
 Juan has talked with a girl blonde but not know  
 con qué chica más.  
 with what girl else  
 ‘Juan talked to a blonde girl, but I don’t know to what other girl.’

4.3.1.3 Conclusion

When the full wh-source of a sluice is unavailable due to a preposition stranding violation, the copular source for sluicing becomes detectable.

**note:** these observations don’t just hold for Spanish, but also French, Italian (Vicente 2008), Dutch, and possibly English (Van Craenenbroeck 2004, Fortin 2007) and Brazilian Portuguese (Nevins, Rodriguez & Vicente 2007, *pace* Yoshida & Almeida 2007)

**4.3.2 Pragmatic control**

**Merchant (2004):** when used without an explicit linguistic antecedent (i.e. in  $DI_{lang}$ -contexts), fragments are derived from copular structures

- (55) [Abby and Ben are at a party. Abby sees an unfamiliar man with Beth, a mutual friend of theirs, and turns to Ben with a puzzled look on her face. Ben says:]  
 Some guy she met at the park.

- (56) [Abby and Ben are arguing about the origin of products in a new store on their block, with Ben maintaining that the store carries only German products. To settle their debate they walk into the store together. Ben picks up a lamp at random, upends it, examines the label (which reads *Lampenwelt GmbH, Stuttgart*), holds the lamp out towards Abby, and proudly proclaims to her:]  
 From Germany! See, I told you!

(55)’ [some guy she met at the park]; ~~{+he is t}~~

(56)’ [from Germany]; ~~{this is t}~~

- (57) “The contexts are rich enough to make a certain entity salient (a guy and a cup, respectively), and to make a certain question manifest, namely the question as to the identity or the country of origin of the entity. (...) this is enough to license anaphoric devices like *he* and *this*. Further we can be sure that these contexts also make the existence predicate *be* manifest (...) In short, I’m proposing a kind of ‘limited ellipsis’ analysis, one in which a demonstrative (such as *this/that* or a pronoun in a demonstrative use) or expletive subject and the copula are elided – given the appropriate discourse context, which will be almost any context where the speaker can make a deictic gesture, and where the existence predicate can be taken for granted (and it’s hard to imagine a context where this wouldn’t be the case)” (Merchant 2004:724-725)

**supporting evidence (I): case matching**

$DI_{lang}$ -fragments occur in nominative case

- (58) [context: same as in (55)]  
 Kapjos / \*Kapjon pu gnorisi sto parko.  
 someone.NOM / someone.ACC that she.met in.the park

*this is the same case that we find in copular clauses*

- (59) Aftos ine {kapjos / \*kapjon} pu gnorisi sto parko.  
 he is someone.NOM / someone.ACC that she.met in.the park

**NEW supporting evidence (II): tag questions**

$DI_{lang}$ -fragments can be combined with tag questions consisting of it and a copula

- (60) [Upon meeting someone in the park:]  
 Nice weather, isn’t it?
- (61) [While shaking the hand of a business associate one is meeting in person for the first time:]  
 How do you do? John Smith, is it?

*these tag questions show that there is a clausal source underlying these fragments and that the source is copular*

(60) ~~it is~~ nice weather, isn’t it?

(61) ~~it is~~ John Smith, is it?

**prediction:** when sluicing is used in a  $DI_{lang}$ -context, the underlying copular source for the sluice should be detectable

- (62) [A contestant of a game show has to choose which one of her two closest friends she wants to take on a luxury cruise. She is explained this choice at the very beginning of the game show, after which the whole show takes place and deals with completely unrelated topics. No mention whatsoever is made of the required choice. After an hour and a half, at the very end of the show, the game show host walks up to the contestant holding a picture of friend A in his left hand and a picture of friend B in his right hand; he says:]  
Who?

**hypothesis:** the underlying structure for this  $DI_{lang}$ -sluice is not *Who will you choose?* but rather *Who will it be?*

**supporting evidence: case marking**

*DI<sub>lang</sub>-sluicing in Greek triggers nominative*

- (63) [context: same as in 62]  
Pjos? / \*Pjon  
who.NOM / who.ACC

*just like the copular version*

- (64) Pjos / \*Pjon tha ine?  
who.NOM / who.ACC FUT be.3SG  
'Who will it be?'

*but unlike the implied full wh-question.*

- (65) Pjon / \*Pjos tha dialeksis?  
who.ACC / who.NOM FUT choose.2SG  
'Who will you choose?'

**conclusion:** when a  $DI_{lang}$ -context makes the full wh-question unavailable as sluicing source, the copular source becomes detectable

#### 4.3.3 Exclusively nominal antecedents (Beecher 2006)

**observation:** in some cases the only available antecedent for sluicing is a nominal and as a result the only possible underlying structure is a copular clause

- (66) a. My parents have some gifts from Santa waiting at their house and I'll put one out for Christmas morning that has their name on it but doesn't say who from.  
b. \* who [~~I'll put one out~~] from.  
c. who [~~it is~~] from.
- (67) a. I remember the presentation at the Climatic Committee meeting but do not remember who by.  
b. \* who [~~I remember the presentation~~] by.  
c. who [~~it was~~] by.
- (68) a. The only thing I can come up with is contamination but I do not know what from.  
b. \* what [~~the only thing I can come up with is contamination~~] from.  
c. what [~~the contamination is~~] from.
- (69) a. It strongly reminds me of some European comic I read once, but I can't remember who by.  
b. \* who [~~it strongly reminds me of some European comic~~] by.  
c. who [~~it was~~] by.

#### 4.3.4 Conclusion

Ambiguous sluicing, P-stranding sluicing in non-P-stranding languages,  $DI_{lang}$ -sluicing and sluicing with unambiguously nominal antecedents provide strong support in favor of the hypothesis that copular clauses can underlie sluicing.

#### 5. Interim summary: the paradox

**section 3:** the absence of nominative case marking in basic sluicing examples suggest that sluicing cannot take a copular source.

**section 4:** there is evidence from ambiguous sluicing, P-stranding sluicing in non-P-stranding languages,  $DI_{lang}$ -sluicing and sluicing with unambiguously nominal antecedents that strongly suggests copular clauses *are* available as sluicing antecedents



## 6. The analysis: interactions between lack of isomorphism and morphology

**starting point:** the paradox arose from the interaction between lack of syntactic isomorphism and morphological case, so there are two logical cases to cover:

- (i) -isomorphic, -morphological case
- (ii) -isomorphic, +morphological case

### 6.1 -isomorphic, -morphological case

#### the basic facts:

'P-stranding' under sluicing in Spanish

- (70) Juan ha hablado con una chica  
 Juan has talked with a girl  
 pero no sé cuál es ~~pro~~.  
 but not know which is it  
 'Juan talked to a girl, but I don't know which girl it was.'

nominal antecedents (I): optional

- (71) They were arguing over a collaboration, but I don't know with who.  
 (72) a. ...but I don't know with who ~~they were arguing over a collaboration~~.  
 b. ...but I don't know with who ~~it (= the collaboration) was~~.

nominal antecedents (II): obligatory

- (73) a. I remember the presentation at the Climatic Committee meeting but do not remember who by.  
 b. \* who [~~I remember the presentation~~] by.  
 c. who [~~it was~~] by.

non-linguistic antecedents

- (74) [A contestant of a game show has to choose which one of her two closest friends she wants to take on a luxury cruise. She is explained this choice at the very beginning of the game show, after which the whole show takes place and deals with completely unrelated topics. No mention whatsoever is made of the required choice. After an hour and a half, at the very end of the show, the game show host walks up to the contestant holding a picture of friend A in his left hand and a picture of friend B in his right hand; he says:]  
 Who?

- note:**
- these examples provide a strong argument against syntactic isomorphism and in favor of semantic isomorphism
  - at the same time, we have to be explicit about what such semantic isomorphism could look like

#### Merchant's (2001) implementation of semantic isomorphism: e-GIVENness

- (75) An XP  $\alpha$  is can be deleted only if  $\alpha$  is e-GIVEN
- (76) An expression E counts as e-GIVEN iff E has a salient antecedent A and, modulo  $\exists$ -type shifting,  
 (i) A entails the F-closure of E, and  
 (ii) E entails the F-closure of A.
- (77) The F-closure of  $\alpha$ , written F-clo( $\alpha$ ), is the result of replacing F-marked parts of  $\alpha$  with  $\exists$ -bound variables of the appropriate type (modulo  $\exists$ -type shifting).
- (78)  $\exists$ -type shifting is a type-shifting operation that raises expressions to type  $\langle t \rangle$  and existentially binds unfilled arguments.

**note:** these definitions seems to straightforwardly capture the examples in (70)/(74)

**what's more:** the  $\exists$ -type shifting in the definition in (76) also allows for nominals to be used as antecedents for clausal ellipsis (cf. the cases in (71)/(73))

**for example:** suppose the first clause in (73) contains as a subpart of its meaning something like (79). Then  $\exists$ -type shifting would yield (80), which can serve as antecedent for the deletion site in (81).

- (79)  $\lambda x . x$  is a presentation at the Climatic Committee meeting  
 (80)  $\exists x . x$  is a presentation at the Climatic Committee meeting  
 (81)  $\exists y . y$  gave a presentation at the Climatic Committee meeting.

**conclusion:** examples of non-isomorphic sluicing strongly suggest that the isomorphism requirement on sluicing is semantic rather than syntactic. Merchant's (2001) e-GIVENness requirement seems able to handle the relevant data.

6.2 *-isomorphic, +morphological case*

**the basic facts:**

*no non-isomorphic source in 'regular' sluicing*

- (82) I astinomia anekrine enan apo tous Kiprious prota,  
 the police interrogatedone.ACC from the Cypriots first  
 ala dhen ksero  
 but not I.know  
 a. **sluicing:** { \*pjos / pjon}  
                   which.NOM which.ACC  
 b. **copular clause:** { pjos / \*pjon} itan.  
                           which.NOM which.ACC it.was  
 'The police interrogated one of the Cypriots first, but I don't know which (it was)'

*no non-isomorphic source in P-stranding sluicing*

- (83) \* I Anna milise me kapjon, alla dhen ksero pjos.  
 the Anna spoke with someone but not I.know who.NOM  
 INTENDED: 'Anna spoke with someone, but I don't know who.'  
 (84) I Anna milise me kapjon, alla dhe ksero pjos itan.  
 the Anna spoke with someone but not I.know who.NOM it.was  
 'Anna spoke with someone, but I don't know who it was.'

*non-isomorphic source in D<sub>lang</sub>-sluicing*

- (85) [A contestant of a game show has to choose which one of her two closest friends she wants to take on a luxury cruise. She is explained this choice at the very beginning of the game show, after which the whole show takes place and deals with completely unrelated topics. No mention whatsoever is made of the required choice. After an hour and a half, at the very end of the show, the game show host walks up to the contestant holding a picture of friend A in his left hand and a picture of friend B in his right hand; he says:]  
 Pjos? / \*Pjon  
 who.NOM / who.ACC  
 (86) Pjos / \*Pjon tha ine?  
 who.NOM / who.ACC FUT be.3SG  
 'Who will it be?'

*non-isomorphic source with nominal antecedents (I): optional*

- (87) Diafonuse gia mia sinergasia, ala dhen ksero me pjon.  
 was.3SG.arguing for a collaboration, but not know.1SG with whom  
 'They were arguing over a collaboration, but I don't know with who.'  
 a. ...but I don't know with who they were arguing.  
 b. ...but I don't know with who the collaboration was.

*non-isomorphic source with nominal antecedents (II): obligatory*

- (88) I moni lisi pu vlepo ine mia sinandisi, ala dhen ksero pote.  
 the only solution thatI.see is a meeting, but not I.know when.  
 'The only solution I see is a meeting, but I don't know when (it should be).'

**conclusion:** mixed results; non-isomorphic sluicing sometimes allowed, sometimes not

**first step towards an analysis:** it is not the case that the content of the ellipsis site is not recoverable:

- (i) the examples in (85)/(87)/(88) show that a copular (non-isomorphic) source for sluicing is perfectly recoverable in case-marking languages  
 (ii) if a copular (non-isomorphic) sluicing source is recoverable in the Spanish/French/Italian/Dutch/English/Brazilian Portuguese equivalents of (82)/(83) it should also be so in Greek/Hungarian/German/Hindi/Slovenian/Czech

**second step towards an analysis:** in the unsuccessful cases of non-isomorphism (i.e. (82)/(83)) the sluiced wh-phrase has an overt correlate that bears a different morphological case:

- (82) **correlate:** enan apo tous Kiprious  
                   one.ACC from the Cypriots  
**sluiced wh:** pjos  
                   who.NOM  
 (83) **correlate:** kapjon  
                   someone.ACC  
**sluiced wh:** pjos  
                   who.NOM

**intuition behind the analysis:** suppose that extracting something out of an ellipsis site comes at a price; in particular, material that is extracted out of an ellipsis site has to be morphologically linked to the antecedent clause

(89) **Parasitic Licensing**

A head or phrase extracted out of an ellipsis site must be morphologically anchored.

(90) **Morphological Anchoring** (*first version*)

A DP is morphologically anchored iff it is morphologically non-distinct in case-marking from its correlate in the ellipsis antecedent.

**the analysis in action:**

*Greek*

(91) \* I Anna milise me kapjon, alla dhe ksero pjos itan.  
 the Anna spoke with someone.ACC but not I.know who.NOM it.was  
 ‘Anna spoke with someone, but I don’t know who it was.’

- evaluation:**
- recoverability: ok (ellipsis site is e-GIVEN)
  - licensing: ok (sluicing targets the IP of constituent questions)
  - parasitic licensing: \* (wh-phrase is not morphologically non-distinct from its correlate)

*Spanish*

(92) Juan ha hablado con una chica  
 Juan has talked with a girl  
 pero no sé cuál es ~~pro~~.  
 but not know which is it  
 ‘Juan talked to a girl, but I don’t know which girl it was.’

- evaluation:**
- recoverability: ok (ellipsis site is e-GIVEN)
  - licensing: ok (sluicing targets the IP of constituent questions)
  - parasitic licensing: ok (wh-phrase is morphologically non-distinct from correlate: neither of them bear a morphological case)

**7. Predictions of the analysis**

The analysis proposed in the previous section raises at least the following three predictions:

- if a language with morphological case allows non-isomorphic sluicing with a case-matching wh-phrase, sluicing should be fine;
- if a morphologically case-marked phrase stays *inside* an ellipsis site, it should be possible for it to be morphologically distinct from its correlate;
- Parasitic Licensing should not be restricted to sluicing: heads and phrases extracted out of other ellipsis sites should show morphological effects as well.

7.1 *Non-isomorphic sluicing with a case-matching wh-phrase*

**7.1.1 Polish** (Szczegielniak 2005)

*no P-stranding in regular wh-questions*

(93) \* Którym Anna tańczyła z mężczyzną?  
 which Anna danced with man  
 INTENDED: ‘Which man did Anna dance with?’

(94) \* Którym mężczyzną Anna tańczyła z?  
 which man Anna danced with  
 INTENDED: ‘Which man did Anna dance with?’

*P-stranding under sluicing*

(95) Anna tańczyła z jednym mężczyzną ale nie wiem którym.  
 Anna danced with one man but not know which  
 ‘Anna danced with a man, but I don’t know which.’

**Szczegielniak (2005):** P-stranding violations under sluicing in Polish do not derive from regular wh-questions, but from an underlying cleft:

(96) Anna tańczyła z jednym mężczyzną ale nie wiem kim.  
 Anna danced with one man but not know who  
~~którym to z mężczyzną (ona) tańczyła~~  
 which it with man she danced  
 ‘Anna danced with a man, but I don’t know which (man it was with which she danced.’

**supporting evidence: no cleft rescue with simple wh-phrases**

*no P-stranding under sluicing with simple wh-phrases*

(97) \* Anna tańczyła z jednym mężczyzną ale nie wiem kim.  
 Anna danced with one man but not know who  
 INTENDED: ‘Anna danced with a man, but I don’t know who.’

*no clefts with simple wh-phrases as pivots*

(98) \* Kim to z ona tańczyła?  
 who it with she danced  
 INTENDED: ‘Who was it that she danced with?’

→ at first sight, Polish contradicts the generalization that languages with morphological case-marking do not allow a non-isomorphic source in the presence of an overt, case-marked correlate

**however:** note that the particular cleft strategy that Polish employs is case-sensitive, i.e. it bears the case assigned by the preposition (Szczegielniak 2005:18):

- (99) Którym to z mężczyzną ona tańczyła?  
 which.INSTR it with man she danced  
 ‘Which man was it with which she danced?’

→ this shows that non-isomorphic sluicing *is* allowed in languages with morphological case marking in the presence of an overt correlate, but only when that correlate bears the same morphological case as the sluiced wh-phrase (i.e. when the wh-phrase is parasitically licensed)

### 7.1.2 Case syncretism in Greek

*nominative and accusative are syncretic with the neuter wh-phrase ti ‘what’ in Greek*

- (100) Ti egine?  
 what happened  
 ‘What happened?’
- (101) Se ti anakateftikes?  
 in what mixed.up.2SG  
 ‘What did he get mixed up in?’

*with this form P-stranding under sluicing is well-formed*

- (102) O Giannis anakateftike se kati, ala dhen ksero (se) ti.  
 the Giannis mixed.up.3s in something but not I.know in what  
 ‘Giannis got mixed up in something, but I don’t know what.’

**evaluation:**

- recoverability: ok (ellipsis site is e-GIVEN)
- licensing: ok (sluicing targets the IP of constituent questions)
- parasitic licensing: ok (wh-phrase is morphologically non-distinct from correlate: correlate is marked accusative and wh-phrase is marked nominative, but the two surface as the same form)

**a caveat:** - the judgments with feminine syncretic forms are less clear-cut (a lot of inter-speaker variation) → there is an additional, orthogonal effect of D-linking/structural complexity on instances of (apparent) P-stranding under sluicing (cf. also Nevins, Rodriguez & Vicente 2007 on Spanish and Barros 2008 for related discussion)

### 7.2 A non-case-matching DP inside an ellipsis site: Icelandic

(Rognvaldsson 1982, Bresnan & Thráinsson 1990)

*Icelandic has nominative subjects that display regular subject-verb agreement*

- (103) Við {hlökkum / \*hlakkar} til jólanna.  
 we.NOM look.forward.1PL look.forward.3SG to Christmas  
 ‘We look forward to Christmas.’

*and it has quirky subjects that display default 3SG agreement*

- (104) Mér {\*finn / finnur} til.  
 I.DAT feel.1SG / feel.3SG PRT  
 ‘I feel pain.’

*a quirky subject can antecede the ellipsis of a nominative one and vice versa*

- (105) þeir sjá stúlkuna og þeim finnast hún álitleg.  
 they.NOM see.3PL the.girl and they.DAT find.3SG her attractive  
 ‘They see the girl and find her attractive.’
- (106) þeim líkar maturinn og þeir borða mikið.  
 they.DAT like.3SG the.food and they.NOM eat.3PL much  
 ‘They like the food and eat much.’

→ this shows that a difference in morphological case marking does not lead to a recoverability problem, i.e. that the case effects in sluicing are due to (parasitic) licensing

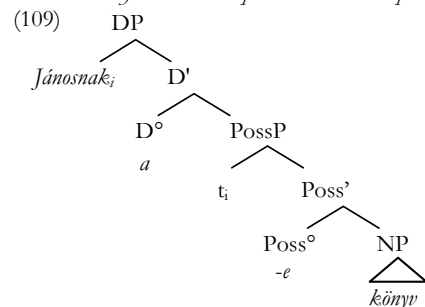
### 7.3 Parasitic Licensing effects in other elliptical constructions

#### 7.3.1 Hungarian NP-ellipsis

*Hungarian has both nominative and dative possessors*

- (107) a János könyve  
 the Janos.NOM book.POSS  
 ‘Janos’s book’
- (108) Jánosnak a könyve  
 Janos.DAT the book.POSS  
 ‘Janos’s book’

standard analysis: the dative possessor moves to specDP (Szabolcsi 1994, É. Kiss 2002)



**prediction:** in NP-ellipsis licensed by D°, Hungarian dative possessors should be subject to Parasitic Licensing

*prediction is borne out: only dative-marked possessors can antecede dative-marked possessors in NP-ellipsis*

- (110) a. Jánosnak a háza szebb, mint Marinak.  
 János.DAT the house more.beautiful than Mary.DAT  
 'Janos's house is more beautiful than Mary's.'
- b. \* János háza szebb, mint Marinak  
 Janos.NOM house more.beautiful than Mary.DAT  
 INTENDED: 'Janos's house is more beautiful than Mary's.'

**evaluation of (110)a:**

- recoverability: ok (ellipsis site is e-GIVEN)
- licensing: ok (possessive constructions can license NP-ellipsis)
- parasitic licensing: ok (possessor is morphologically non-distinct from its correlate: both of them bear dative case)

**evaluation of (110)b:**

- recoverability: ok (ellipsis site is e-GIVEN)
- licensing: ok (possessive constructions can license NP-ellipsis)
- parasitic licensing: \* (possessor is not morphologically non-distinct from its correlate: dative vs. nominative case)

*control: the examples in (110) are well-formed when they are non-elliptical*

- (111) a. Jánosnak a háza szebb, mint Marinak a háza.  
 János.DAT the house more.beautiful than Mary.DAT the house  
 'Janos's house is more beautiful than Mary's house.'

- b. János háza szebb, mint Marinak a háza.  
 Janos.NOM house more.beautiful than Mary.DAT the house  
 'Janos's house is more beautiful than Mary's house.'

### 7.3.2 V-stranding VP-ellipsis (Goldberg 2005)

*V-stranding VP-ellipsis is VP-ellipsis in which the main verb has raised out of the ellipsis site*

- (112) Q: (Ha'im) Míryam hevi'a et Dvora la-xanut?  
 Q Míryam bring.PAST.3FSG ACCDvora to.the-store  
 '(Did) Míryam bring Dvora to the store?'
- A: Ken, hi hevi'a.  
 yes she bring.PAST.3FSG  
 'Yes, she brought [Dvora to the store].'

- (113) hi hevi'a [VP et Dvora t<sub>hevi'a</sub> la-xanut]
- 

**prediction:** if the verb moves out of the ellipsis site in V-stranding VP-ellipsis, it should be subject to stringent morphological restrictions

*prediction is borne out: Goldberg's (2005) Verbal Identity Requirement*

- (114) **Verbal Identity Requirement** (Goldberg 2005:165)  
 The antecedent- and target-clause main Vs of V-stranding VPE must be identical, minimally in their root and derivational morphology. Their inflectional morphology may vary.

*same derivational morphology (binyan) and same root: V-stranding VPE = ok*

- (115) Q: (Ha'im) Míryam hevi'a et Dvora la-xanut?  
 Q Míryam bring.PAST.3FSG ACCDvora to.the-store  
 '(Did) Míryam bring Dvora to the store?'
- A: Ken, hi hevi'a.  
 yes she bring.PAST.3FSG  
 INTENDED: 'Yes, she brought [Dvora to the store].'

*different derivational morphology (binyan) and same root: V-stranding VPE = \**

- (116) Q: L'ora nas'a etmol le-Tel Aviv?  
Liora travel.PAST.3FSG yesterday to-Tel Aviv  
'(Did) Liora travel yesterday to Tel Aviv?'  
A: \* Ken — hisa'ti.  
yes drove.PAST.1SG  
INTENDED: 'Yes—I drove [her yesterday to Tel Aviv].'

*same derivational morphology (binyan) and different root: V-stranding VPE = \**

- (117) Q: Rivka hisi'a otax le-beit ha-sefer?  
Rivka drive.PAST.3FSG ACC.you.FSG to-house the-book  
'(Did) Rivka drive you to school?'  
A: \* Ken, hi hevi'a.  
yes she bring.PAST.3FSG  
INTENDED: 'Yes, she brought [me to school].'

**moreover:** the restrictions on V-stranding VP-ellipsis should be more strict than on non-V-stranding VP-ellipsis → borne out by voice mismatches

*active/passive-mismatches are allowed under non-V-stranding VP-ellipsis (Merchant 2008)*

- (118) a. This problem was to have been looked into, but obviously nobody did ~~look into this problem~~.  
b. Steve asked me to send the set by courier through my company insured, and it was ~~sent by courier through my company insured~~.

→ nothing has been extracted out of the ellipsis site, so Parasitic Licensing is vacuously satisfied (and e-GIVENNESS and ellipsis licensing are both respected)

*but they are not allowed in V-stranding VP-ellipsis*

- (119) Q: Aviva xubka al-yedey Yitzchak?  
Aviva be.embraced.PAST.3FSG by Yitzchak  
'Was Aviva hugged by Yitzchak?'  
A: \* Ken, hu xibek.  
yes he embrace.PAST.3MSG  
INTENDED: 'Yes, he hugged [her].'

→ in V-stranding VP-ellipsis the verb moves out of the ellipsis site and hence is subject to Parasitic Licensing → no active/passive-mismatches are allowed

### 7.3.3 Conclusion

There is reason to think that Parasitic Licensing is not restricted to sluicing, and that heads and phrases extracted out of any ellipsis site are required to be morphologically anchored:

- (120) **Morphological Anchoring** (*second version*)  
A head or phrase is morphologically anchored iff it is morphologically non-distinct from its correlate in the ellipsis antecedent.  
(i) morphological anchoring of DPs proceeds via morphological case  
(ii) morphological anchoring of verbal heads involves the lexical root and derivational morphology

## 8. Two challenges for semantic isomorphism: Merchant (2006) and Chung (2005)

### 8.1 Merchant (2006): no argument alternations under sluicing

*active/passive-mismatches*

- (121) a. \* Joe was murdered, but we don't know who ~~murdered Joe~~.  
b. \* Someone murdered Joe, but we don't know by who ~~Joe was murdered~~.

*ditransitives*

- (122) \* John sent someone a package, but I don't know to who ~~John/he sent a package~~.

*causative/inchoative-alternation*

- (123) a. Eklisan ena dhromo.  
closed.3PL a.ACC road.ACC  
'They closed a road.'  
b. Enas dhromos eklise.  
a.NOM road.NOM closed.3SG  
'A road closed.'  
(124) \* Eklisan ena dhromo, alla dhen ksero pjos ~~eklise~~.  
closed.3PL a.ACC road.ACC but not know which.NOM closed.3SG  
INTENDED: 'They closed a road, but I don't know which road closed.'

*spray/load-alternations*

- (125) a. \* They embroidered something with peace signs, but I don't know what on ~~they embroidered peace signs~~.  
b. \* The embroidered something on their jackets, but I don't know with what ~~they embroidered their jackets~~.

**note:** the causative/inchoative-alternation in (123)/(124) follow directly from Parasitic Licensing

**hypothesis:** assume that the prepositions of sluiced PPs are also affected by Parasitic Licensing, just like morphological case affixes

(126) **Morphological Anchoring** (*final version*)

A head or phrase is morphologically anchored iff it is morphologically non-distinct from its correlate in the ellipsis antecedent.

- (i) morphological anchoring of DPs proceeds via morphological case
- (ii) morphological anchoring of verbal heads involves the lexical root and derivational morphology
- (iii) morphological anchoring of PPs requires that the correlate have the same P

*this version of Morphological Anchoring accounts for a large number of the argument alternations:*

- (127) \* Someone murdered Joe, but we don't know by who ~~Joe was murdered~~.
- (128) \* John sent someone a package, but I don't know to who ~~John/he sent a package~~.
- (129) a. \* They embroidered something with peace signs, but I don't know what on ~~they embroidered peace signs~~.
- b. \* The embroidered something on their jackets, but I don't know with what ~~they embroidered their jackets~~.

→ in all these cases, (the P in) the sluiced PP is not morphologically anchored

*however, the following type of mismatch does not yet follow from the theory*

- (130) \* Joe was murdered, but we don't know who ~~murdered Joe~~.

→ the wh-phrase is (trivially) morphologically anchored (and there does not seem to be a violation of e-GIVENness or ellipsis licensing either), and yet sluicing is disallowed

## 8.2 Chung (2005): no new words

- (131) a. \* They sent the package—find out who ~~they sent the package to~~.
- b. \* Mary was flirting, but they wouldn't say who ~~Mary was flirting with~~.
- c. \* We're donating our car, but it's unclear which organization ~~we're donating our car to~~.

### Chung (2005): NO NEW WORDS

Every lexical item in the numeration of the sluice that ends up (only) in the elided IP must be identical to an item in the numeration of the antecedent CP.

**note:** - the theory presented here has to adopt NO NEW WORDS as well: the examples in (131) satisfy e-GIVENness, ellipsis licensing and Parasitic Licensing and yet are ill-formed

## 8 Summary and conclusions

- 1 The underlying source for sluicing is not always isomorphic to the sluicing antecedent.
- 2 The recoverability requirement on ellipsis is semantic: in order to be recoverable, an ellipsis site has to be in a mutual entailment relation with a salient antecedent.
- 3 Apart from recoverability and licensing there is an additional, morphological licensing requirement on heads and phrases extracted out of the ellipsis site.

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