Invisible optionality On the recoverability and licensing requirements 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 regular wh-question.
- This observation seems to be contradicted by languages with morphological case marking on wh-phrases.

MAIN GIST OF THE ANALYSIS

A revised and extended version of Merchant's (2001, 2004) e-GIVENness requirement on ellipsis in combination with a new, 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. Evaluating and extending the analysis
- 8. Summary and conclusions

1. Introduction: ellipsis and isomorphism

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):

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) (invisible optionality)
- and hence, that the isomorphism requirement on sluicing is semantic rather than syntactic

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.

Merchant's arguments:

- 1. adjuncts and implicit arguments
- (6) 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.
- (7) 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.
- 2. prosody
- (8) Someone gave me a valentine, but
 - a. **sluicing:** I don't know WHO.
 - b. copular clause: * I don't know WHO it was.
 - c. **copular clause:** I don't know who it WAS.
- 3. aggressively non-D-linked wh-phrases
- (9) 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!
- 4. 'mention some'-modification
- (10) 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?
- 5. 'mention all'-modification
- (11) 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.
- 6. else-modification
- (12) Harry was there, but
 - a. **sluicing:** I don't know who else.
 - b. **copular clause:** * I don't know who else it was.

- 7. swiping (sluiced wh-word inversion with prepositions in northern Germanic)
- (13) She bought a robe, but
 - a. **sluicing:** God knows who for.
 - b. copular clause: * God knows who for it was.
- 8. languages with limited or no cleft strategy

sluicing

(14) 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)

cleft

(15) * Mit wem war es, daβer gesprochen hat?
with who was it that he spoken has
INTENDED: 'With whom was it that he spoke?' (German)

note: here, Merchant only discusses 'full' clefts. As soon as copular clauses are taken into account, however, the argument loses its force:

copular clause

- (16) 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)
- 9. case matching
- (17) 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 (Greek) "The police interrogated on of the Cypriots first, but I don't know which (it was)"
- 10. left-branch sluices
- (18) He married a rich woman
 - a. **sluicing:** wait till you hear how rich!
 - b. copular clause: * wait till you hear how rich it is!

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 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. adjuncts and implicit arguments

(20) 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.

(21) 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

2. prosody

(22) 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

- 3. aggressively non-D-linked wh-phrases
- (23) 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
Ī	aggressively non-D- linked wh	*	*	*

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. 'mention all'-modification

(25) A bunch of students were protesting,

a. sluicing:
b. copular clause:
and the FBI is trying to find out who all.
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	*	*	*

6. else-modification

(26) 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

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
swiping	*	*	*

8. languages with limited or no cleft strategy

sluicing

(28) 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

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

(German)

wh

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

 languages with limited or no clefts
 Ok
 Ok
 Ok

9. case matching

I astinomia anekrine enan Kiprious 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: / *pjon} itan. pjos

	ALWAYSCOPULA	ALWAYSWH	OPTIONALITY
case matching	*	ok	*

10. left-branch sluices

32) 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
left-branch sluicing	*	*	*

3.3 Summary and conclusions

	ALWAYSCOPULA	ALWAYSWH	OPTIONALITY
adjuncts & implicit arguments	*	ok	ok
prosody	*	ok	ok
aggressively non-D- linked wh-phrases	*	*	*
'mention some'- modification	*	ok	ok
'mention all'- modification	*	*	*
else-modification	*	ok	ok
swiping	*	*	*
languages with limited or no clefts	ok	ok	ok
case matching	*	ok	*
left-branch sluices	*	*	*

Conclusions:

- (i) 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)
- (ii) 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:
- I astinomia anekrine enan Kiprious prota, the police interrogated one. ACC the Cypriots first from ala dhen ksero I.know but not a. sluicing: { * pjos pjon} who.NOM who.ACC b. copular clause: * pjon} pjos itan. who.NOM who.ACC it.was c. wh: { * pjos pion} 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 ambiguity is caused by the difference between having the ellipsis site be isomorphic to the antecedent vs. using a copular structure (generally, 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 dhe ksero *(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 com 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

ha hablado (52) * Juan chica rubia, no sé has talked with blonde but not know Iuan a girl aué 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 una rubia, pero con chica no sé has talked with blonde but not know Iuan a aué chica más. 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

Iuan ha hablado con chica rubia, pero Iuan has talked with oirl blonde but not know con qué chica más. what girl else with '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]; {TP he is ti-}
- (56)' [from Germany]; [this is t_i]
- (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. As we've just seen, this is enough to license anaphoric devices like he and this. Further we can be sure that these contexts also make the existence predicate he 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_{lano} -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 $\mathrm{DI}_{\mathit{lang}}$ -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_{lang}-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

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 $\mathrm{DI}_{\mathit{lang}}$ -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
 - 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
- 6.1 Introduction: licensing and recoverability

basic ellipsis fact (I): ellipsis needs an antecedent, i.e. it has to be recoverable

- (70) [At the very beginning of a lecture:]
 - * I know who.
- (71) * John saw someone and I know who kissed Mary.

Merchant's (2001) implementation of recoverability: e-GIVENness

- (72) An XP α is can be deleted only if α is e-GIVEN
- (73) An expression E counts as e-GIVEN iff E has a salient antecedent A and, modulo 3type shifting,
 - (i) A entails the F-closure of E, and
 - (ii) E entails the F-closure of A.

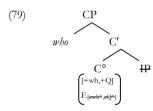
- (74) The F-closure of α , written F-clo(α), is the result of replacing F-marked parts of α with \exists -bound variables of the appropriate type (modulo \exists -type shifting).
- (75) 3-type shifting is a type-shifting operation that raises expressions to type <t> and existentially binds unfilled arguments.

basic ellipsis fact (II): recoverability is not enough, ellipsis also has to be licensed

- (76) * John has a book and I also have a book.
- (77) * John wonders if Mary will come and I know that Mary will come.

Merchant (2001) on licensing sluicing:

(78) syntactic requirements of [E]: E_[wwh*,uQ*]



→ the syntactic requirements of [E] are met in (79) and as a result, sluicing is licensed

6.2 The analysis

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

- (i) +isomorphic, +morphological case
- (ii) +isomorphic, -morphological case
- (iii) -isomorphic, -morphological case
- (iv) -isomorphic, +morphological case
- (i) +isomorphic, +morphological case
- I astinomia anekrine enan tous Kiprious prota, Cypriots the police interrogated one. ACC from the first ala dhen ksero pjon anekrine astinomia. I.know who.ACC interrogated the police but not 'The police interrogated one of the Cypriots first, but I don't know which.'

→ no surprises here: ellipsis is (a) recoverable (both under semantic and under syntactic isomorphism) and (b) licensed

note: the sluice behaves like its underlying (isomorphic) source: if the latter is ill-formed, so is the former:

no P-stranding in non-elliptical wh-questions

(81) * Pjon milise me? who.ACC she.spoke with INTENDED: Who did she speak with?'

no P-stranding in sluices based on such questions

- (82) * I Anna milise me kapjon, alla dhe ksero pjon. the Anna spoke with someone but not I.know who.ACC INTENDED: 'Anna spoke with someone, but I don't know who.'
- (ii) +isomorphic, -morphological case
- (83) John saw someone, but I don't know who John saw.
- → no surprises here: ellipsis is (a) recoverable (both under semantic and under syntactic isomorphism) and (b) licensed

note also: if the analyses of section 4.3.1 are on the right track, sluicing in this case too tracks the (un)grammaticality of its underlying source

no P-stranding under sluicing in Spanish

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

apparent P-stranding under sluicing in Spanish

(85) 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.'

but else-modification shows that (85) is not derived from a regular wh-question

(86) * Juan ha hablado chica rubia, no sé has talked with girl blonde but not know qué chica más. what girl 'Juan talked to a blonde girl, but I don't know what other girl.'

(iii) -isomorphic, -morphological case

examples:

P-stranding' under sluicing in Spanish

hablado Iuan ha chica com una girl Iuan has talked with pero no sé cuál not know which is it 'Juan talked to a girl, but I don't know which girl it was."

nominal antecedents (I): optional

- (88) They were arguing over a collaboration, but I don't know with who.
- (89) 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

- (90) 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

(91) [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, e-GIVENness doesn't seem to be sufficient either: esp. in (88)/(90) it is unclear that there is salient antecedent that is in a mutual entailment relation with the ellipsis site

proposal: we need to modify e-GIVENness such that it allows for these cases

(92) Extended e-GIVENness

An XP α is can be deleted only if α is ee-GIVEN

- - (i) A entails the F-closure of E, and
 - (ii) E entails the F-closure of A.
- (iv) -isomorphic, +morphological case

the facts:

no non-isomorphic source in 'regular' sluicing

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

no non-isomorphic source in P-stranding sluicing

- (95) * 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.'
- (96) 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 DI_{lano}-sluicing

[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:]

Pios? / *Pion who.NOM / who.ACC

Pios / * Pion tha ine? who.NOM / who.ACC FUT be.3sG 'Who will it be?'

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

- Diafonuse gia mia sinergasia, ala dhen ksero 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.'
 - ...but I don't know with who they were arguing.
 - ...but I don't know with who the collaboration was. h.

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

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

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

first step towards an analysis: this is an issue of licensing, not of recoverability:

- the examples in (97)/(99)/(100) show that a copular (non-isomorphic) source for sluicing is perfectly recoverable in case-marking languages
- if a copular (non-isomorphic) sluicing source is recoverable in the Spanish/French/Italian/Dutch/English/Brazilian Portuguese equivalents of (94)/(95) 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. (94)/(95)) the sluiced wh-phrase has an overt correlate that bears a different morphological case:

(94)correlate: enan tous Kiprious

from the Cypriots one.ACC

sluiced wh: pios

who.NOM

(95)correlate: kapjon

someone.ACC

sluiced wh: pjos

who.NOM

proposal: let's assume that phrases extracted out of the ellipsis site by the licensing head are subject to an additional, parasitic licensing requirement:

Parasitic Licensing (first version)

A phrase extracted out of an ellipsis site by the head licensing that ellipsis must be morphologically anchored.

Morphological Anchoring (first version)

A phrase is morphologically anchored iff it is morphologically non-distinct from its correlate in the ellipsis antecedent, if there is one.

the analysis in action:

Greek

(103) * I Anna milise me kapjon, alla dhe ksero pjos 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 ee-GIVEN)

- licensing: ok (licensing head is [+wh,Q])
- parasitic licensing: * (wh-phrase is not morphologically non-distinct from its correlate)

Spanish

(104) Juan ha hablado com 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 ee-GIVEN)
- licensing: ok (licensing head is [+wh,Q])
- parasitic licensing: ok (wh-phrase is morphologically non-distinct from correlate: neither of them bear a morphological case)

prediction (I): if a language with morphological case were to allow a non-isomorphic sluicing source with a morphologically anchored wh-phrase, sluicing should be fine

first case in point: Polish (Szczegelniak 2005)

no P-stranding in regular wh-questions

- (105) * Którym Anna tańcczyła z mężczyzną? which Anna danced with man INTENDED: 'Which man did Anna dance with?'
- (106) * Którym mężczyzną Anna tańcczyła z? which man Anna danced with INTENDED: 'Which man did Anna dance with?'

P-stranding under sluicing

(107) Anna tańczyła z jednum 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.'

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

(108) Anna tańcczyła z jednum mężczyzną ale nie wiem
Anna danced with one man but not know
którym to z mężczyzną (ona) tańcczyła
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

(109) * Anna tańcczyła 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

(110) * Kim to z ona tańcczyła? who it with she danced INTENDED: 'Who was it that she danced with?'

→ at first sight, Polish contradicts the generalization that languages with morphological casemarking 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 (Szczegelniak 2005:18):

- (111) Którym to z mężczyzną ona tańcczyła? 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 when there is 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)

second case in point: case syncretism in Greek

nominative and accusative are syncretic with feminine wh-phrases in Greek

- (112) Pja kopela milise me to Yianni? which.NOM girl.NOM spoke.SG with the.ACC John.ACC 'Which girl spoke with John?'
- (113) Me pja kopela milise o Yiannis? with which.ACC girl.ACC talked.3SG the.NOM John.NOM 'With which girl did John speak?'

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

(114) o Yiannis milise me mia kopela, ala dhen ksero the.NOM John.NOM talked.3SG with a.ACC girl.ACC,but not know.1SG pja (kopela).

which.NOM girl.NOM

evaluation:

- recoverability: ok (ellipsis site is ee-GIVEN)
- licensing: ok (licensing head is [+wh,Q]
- parasitic licensing: ok (wh-phrase is not morphologically non-distinct from correlate: correlate is marked accusative and wh-phrase is marked nominative, but the two surface as the same form)

prediction (II): if a morphologically case-marked phrase stays inside an ellipsis site, it should be possible for it to be morphologically distinct from its correlate

case in point: Icelandic (Rögnvaldsson 1982, Bresnan & Thráinsson 1990)

Icelandic has nominative subjects that display regular subject-verb agreement

(115) 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

(116) 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

- (117) þeir sjá stúlkuna og þeim finnst hún álitleg. they.NOM see.3PL the.girl and they.DAT find.3SG her attractive 'They see the girl and find her attractive.'
- (118) 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

6.3 Summary

The analysis of sluicing that I have proposed assumes:

- that this construction is subject to a semantic recoverability requirement. This requirement
 is an extension of Merchant's e-GIVENness in that it allows presuppositions of salient
 propositions to act as sluicing antecedent.
- that apart from the syntactic licensing requirement on the ellipsis site, there is an
 additional, morphological licensing requirement on elements that have been extracted out
 of the ellipsis site by the ellipsis licensing head.

7 Evaluating and extending the analysis

two questions:

- is Parasitic Licensing restricted to sluicing or does it apply to other ellipsis processes as well?
- how does the present account handle well-known challenges for semantic recoverability analyses of ellipsis?

7.1 Extending Parasitic Licensing

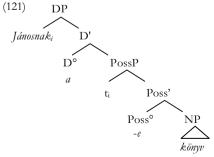
note: if Parasitic Licensing is a more general requirement of ellipsis (i.e. not restricted to sluicing), we expect elements extracted from other ellipsis sites by the head licensing the ellipsis to show stringent morphological restrictions as well

first case in point: Hungarian NP-ellipsis

Hungarian has both nominative and dative possessors

- (119) a János könyve the Janos.NOM book.POSS 'Janos's book'
- (120) 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

(122) 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 (122)a: - recoverability: ok (ellipsis site is ee-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 (122)b: - recoverability: ok (ellipsis site is ee-GIVEN)

- licensing: ok (possessive constructions can license NP-ellipsis)

 parasitic licensing: * (possessor is not morphologically nondistinct from its correlate: dative vs. nominative case)

control: the examples in (122) are well-formed when they are non-elliptical

(123) 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.'

second case in point: 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

(124) Q: (Ha'im) Miryam hevi'a et Dvora la-xanut?
Q Miryam bring PAST.3FSG ACCDvora to.the-store
'(Did) Miryam bring Dvora to the store?'

A: Ken, hi hevi'a. yes she bring.PAST.3FSG

'Yes, she brought [Dvora to the store].'

(125) hi hevi'a [vP et Dvora thevi'a la-xanut]

prediction: if the verb moves to the ellipsis licensing head in V-stranding VP-ellipsis, it should be subject to stringent morphological restrictions

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

(126) **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

(127) Q: (Ha'im) Miryam hevi'a et Dvora la-xanut? Q Miryam bring.PAST.3FSG ACCDvora to.the-store

'(Did) Miryam 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 = *

(128) Q: Li'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.

ves drove.PAST.1SG

INTENDED: 'Yes—I drove [her yesterday to Tel Aviv].'

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

(129) 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].'

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 by the ellipsis licensing head are required to be morphologically anchored

(130) Parasitic Licensing (final version)

A head or phrase extracted out of an ellipsis site by the head licensing that ellipsis must be morphologically anchored.

(131) Morphological Anchoring (second version)

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

- (i) morphological anchoring of DPs proceeds via morphological case
- morphological anchoring of verbal heads involves the lexical root and derivational morphology

7.2 Evaluating the empirical coverage of the present account

some well-known problems for semantic approaches to ellipsis recoverability:

(i) Tanaka (2007)

- (132) a. * Ben believes that someone is insane, but I cannot tell whom Ben believes to be insane.
 - b. * Someone is impossible for Ben to please, but I don't know whom it is impossible for Ben to please.
 - c. * Pictures of someone are on the wall, but I cannot tell whose (pictures) are on the wall
 - d. * I saw someone dancing, but I don't know whose (dancing) I saw.

Tanaka: these facts "indicate that the sluiced TP must be syntactically isomorphic to the antecedent TP" (Tanaka 2007:5)

however: note that all these cases violate Parasitic Licensing: the sluiced wh-phrase is not morphologically non-distinct from its correlate in the sluiced antecedent, i.e. the ellipsis here is recoverable, but not fully licensed

(ii) Merchant (2006)

Merchant (2006): no argument alternations under sluicing

active / passive-mismatches

- (133) 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

(134) * John sent someone a package, but I don't know to who John/he sent a package

causative | inchoative-alternation

- (135) 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.'
- (136) * 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

- (137) 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 (135)/(136) follow directly from Parasitic Licensing

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

(138) Morphological Anchoring (final version)

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

- (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:

- 139) * Someone murdered Joe, but we don't know by who Joe was murdered.
- (140) * John sent someone a package, but I don't know to who John/he sent a package.
- (141) 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

moreover, it accounts for why active/passive-mismatches are allowed under VP-ellipsis

- (142) 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.
- → the licensing head hasn't extracted anything out of the ellipsis site, so Parasitic Licensing is vacuously satisfied (and ee-GIVENness and ellipsis licensing are both respected)

and it explains why active/passive-mismatches are not allowed in V-stranding VP-ellipsis

(143) Q: Aviva xubka

al-yedeyYicxak?

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 to the licensing head and hence is subject to Parasitic Licensing → no active/passive-mismatches are allowed

and it explains why argument alternations are allowed if they target a position higher than the licensing head (144) John gave MARY a present, but to BILL I don't think he did give a present.

→ the PP to Bill is not probed by the VP-ellipsis-licensing head, but by a higher Top°-head; as a result, Parasitic Licensing does not apply and lack of morphological anchoring is allowed

however, the following mismatch does not yet follow from the theory

- (145) * 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 ee-GIVENness or ellipsis licensing either), and yet sluicing is disallowed

(iii) Chung (2005)

- (146) 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.

- the theory presented here has to adopt NO NEW WORDS as well: the examples in (146) satisfy ee-GIVENness, ellipsis licensing and Parasitic Licensing and yet are ill-formed
 - at first sight, non-isomorphic sluicing examples such as (147) seem to violate NO NEW WORDS
- (147) I remember the presentation at the Climatic Committee meeting but do not remember who it was by.
- → neither it nor was occur in the antecedent CP

however: - assume that *was* is just an instantiation of T°

 assume that pronouns are just elliptical versions of full DPs (Postal 1966, Elbourne 2001):

(148) it = $\left[DP D^{\circ} \left[PP Sentation \right] \right]$

note: that this might explain why the non-isomorphic sluicing sources all seemed to involve copular clauses: these are the only sources that (a) are ee-GIVEN and (b) do not violate NO NEW WORDS

8 Summary and conclusions

- 1 The underlying source for sluicing is not always isomorphic to the sluicing antecedent.
- 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 presupposition of) a salient antecedent.
- Apart from recoverability and licensing there is an additional, morphological licensing requirement on heads and phrases extracted out of the ellipsis site by the ellipsis licensing head.
- The proposal in a nutshell:

(149) Extended e-GIVENness

An XP α is can be deleted only if α is ee-GIVEN

- (150) An expression E counts as ee-given iff there is an A such that (a) A is salient antecedent for E, or (b) A is presupposed by a salient proposition, and, modulo \(\beta\)-type shifting,
 - (i) A entails the F-closure of E, and
 - (ii) E entails the F-closure of A.

(151) Parasitic Licensing

A head or phrase extracted out of an ellipsis site by the head licensing that ellipsis must be morphologically anchored.

(152) Morphological Anchoring

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

- (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

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