Reconstruction: the islands' puzzle*

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Overview

Goals & claims of our study:

• to present novel data from French that resist the traditional analysis of syntactic reconstruction as a consequence of movement (see Lebeaux (1990) among others)

 \Rightarrow Cases of reconstruction within islands;

• to propose an analysis of these recalcitrant data, based on the idea that reconstruction relies on copying operation rather than movement operation.

 \Rightarrow Reconstruction through NP-deletion's analysis of resumptive pronouns (à la Elbourne (2001));

 \Rightarrow Interpretation of copies either as definite (see Fox (2002)'s definite descriptions) or indefinite (see Kratzer (1998)'s skolemized choice functions).

1 What is Reconstruction?

Reconstruction: interaction between displacement (dislocation, topicalization, interrogation, relativization)¹ and interpretation procedures such as the evaluation of referential expressions (proper names, pronouns and anaphora) or scope statements.

- (1) (a) The secretary called the patient that every doctor will examine tomorrow.²
 - (b) Mary saw the picture of him that each man prefers.

 \Rightarrow (1a) and (1b) both have a 'reconstructed' reading.

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¹Topicalization will not be touched upon in this study.

²From Bianchi (1995).

- $(1a) \rightarrow a$ different patient for every doctor.
- Scope-only reconstruction³: narrow scope of *patient* with respect to *each doctor*.
- (1b) \rightarrow a different *picture* for *each man*.
- Binding reconstruction: *him* is interpreted as a variable bound by the quantifier;
- Scope reconstruction: narrow scope of *picture* with respect to *each man*.

GG/minimalist account for reconstruction: the copy theory of movement. \Rightarrow Syntactic mechanism given by Lebeaux (1990), Bianchi (1995), Sauerland (2004) among others, to allow interpretation of a displaced constituent in the base position:

- (2) (a) The secretary called the patient that every doctor will examine patient.
 - (b) Mary saw the picture of him that each man prefers picture of him.

 \Rightarrow Presence of reconstruction in restrictive relatives argues for head-raising analysis initially proposed by Vergnaud (1973).

 \Rightarrow Interpretation of the copy in (2a) and (2b) as an indefinite (see Kayne (1994) for arguments).

Conclusion #1: Reconstruction requires movement.

2 A paradox in three steps

 \Rightarrow to show that traditional assumptions about reconstruction make wrong predictions with respect to islands.

2.1 Step 1: Islandhood

Islandhood: a well-known syntactic restriction on movement, as questions such as (3a) and (3b) are ungrammatical⁴.

- (3) (a) *Quel étudiant as-tu rencontré [Complex-NP Island la personne qui a invité]?
 'Which student did you meet the person who invited?'
 - (b) *Quel étudiant es-tu fâché [Adjunct Island parce que le doyen a renvoyé]? 'Which student are you furious because the principal expelled?'

Conclusion #2: Islands block movement.

2.2 Step 2: Resumption

Resumption: when a pronoun occupies a site where a gap would be expected, i.e. when a pronoun takes a displaced constituent as antecedent.

Main property: resumptive strategy can circumvent islandhood in French and other languages. See wh- movement in (4a) and (4b), and dislocation in (4c):

 $^{^{3}}$ For convenience, we use scope reconstruction for any case of distributive reading of the displaced constituent.

⁴Following Cinque (1990), only strong islands (complex-NPs, adjuncts...) will be investigated here as they block any kind of movement, in contrast with weak islands (wh- structures, negation...) from which arguments can be extracted.

- (4) (a) ?Quel étudiant es-tu fâché [Adjunct Island parce que le doyen l'a renvoyé]?
 'Which student are you furious because the principal expelled him?'
 - (b) ?Quel étudiant as-tu rencontré [Complex-NP Island la personne qui l'a invité]?
 'Which student did you meet the person who invited him?'
 - (c) ?*Cet étudiant, tu es fâché* [*Adjunct Island parce que le doyen l'a renvoyé*]. 'This student, you are furious because the principal expelled **him**.'

 \Rightarrow Insertion of a pronoun in (4a), (4b), and (4c) rescues the sentence.

Notice that dislocation in French seems to depart from clitic left dislocation (ClLD) in Italian, as the former can cross islands (see (4b), and also (5) from De Cat (2002)), whereas the latter cannot, as Cecchetto (2001)'s example in (6) shows⁵:

- (5) Les tartes₁, elle a oublié d'acheter les oeufs [pour les₁ faire].
 'The pies, she has forgotten to buy the eggs to make them.'
- (6) *Maria, ho visto Leo prima che la incontrasse.'Maria, (I) have seen Leo before he met her.'

Conclusion #3: Resumption can occur within islands.

2.3 Step 3: Unexpected reconstruction in islands

From section 1: reconstruction requires movement.

From section 2.1: islands block movement.

Prediction: Reconstruction should never occur within islands.

However, consider wh- movement in (7a) and (7b), and dislocation in (7c):

- (7) (a) Quelle photo₁ de lui₂ es-tu fâché parce que chaque homme₂ l₁'a déchirée?
 'Which picture of him are you furious because each man tore it?'
 - (b) Quelle photo1 de sa2 fille connais-tu quelqu'un à qui chaque homme2 l1'a montrée?
 'Which picture of his daughter do you know someone whom each man showed it to?'
 - (c) La photo₁ de sa₂ classe, tu es fâché parce que chaque $prof_2 \mathbf{l}_1$ 'a déchirée. 'The picture of his class, you are furious because each teacher tore **it**.'

(i) Giorgio₁, no conosco la [ragazza che lui₁ vuole sposare].'Giorgio, I don't know the girl who wants to marry him.'

Cinque (1983) considers (i) as a case of Hanging Topic rather than ClLD. For a clear study of the distinction, see Grohmann (2000).

 $^{^5\}mathrm{However},$ notice that certain cases of dislocation with strong islands can be found in Italian, as (i) from Cinque (1983) shows:

 \Rightarrow (7a), (7b) and (7c) can all have a 'reconstructed' functional reading.

(7a) → Answer: *la photo de lui à son mariage* ('the picture of him at his wedding').
Binding reconstruction: the pronoun *lui* is interpreted as a bound variable.

(7b) \rightarrow Answer: *la photo de sa naissance* ('the picture of her birthdate').

• Binding reconstruction: the possessive sa is interpreted as a bound variable.

 $(7a) \rightarrow a$ different *picture* for *each teacher* (strict mapping teacher/picture).

• Binding reconstruction: the possessive *sa* is interpreted as a bound variable.

If reconstruction is only a consequence of syntactic movement, as suggested in Lebeaux (1990), Chomsky (1995), Cecchetto (2001), Sauerland (1998) among others, how is reconstruction possible in a strong island?

Important note: only the functional answer (intensional) seems to be available for (7a) and (7b), the pair-list (extensional) is not:

 $-(7a) \rightarrow \langle John, picture \ of \ his \ wedding \rangle, \ \langle Paul, picture \ of \ his \ birthdate \rangle, \dots$

 $-(7b) \rightarrow * \langle John, picture \ of \ her \ wedding \rangle, \ \langle Paul, picture \ of \ her \ birthdate \rangle, \dots$

To confirm this, we can use the test of the negative quantifier aucun (given in Sharvit (1997) among others) which only allows for functional readings:

(8) Who does no man love?
 functional answer: his mother-in-law.
 pair-list answer: *(John, Mary), (Paul, Suzann),...

The reconstructed readings noticed in (7) are still present if we use the negative quantifier:

(9) Quelle photo₁ de lui₂ es-tu fâché parce qu'aucun homme₂ ne l₁'a déchirée?
'Which picture of him are you furious because no man tore it?'
→ Answer: la photo de lui à son mariage ('the picture of him at his wedding').

3 Our view on reconstruction

By definition (see section 1), reconstruction requires that the antecedent be in a peripheral position.

Our analysis is then based on two main claims:

• Reconstruction requires *Copying* rather than *Movement*.

• Resumptive pronouns can be interpreted through NP-deletion's analysis (see Elbourne (2001)).

3.1 Move vs Copy

Two kinds of syntactic operations make use of the *copying* process:

• Movement \rightarrow when a constituent (NP, DP, ...) is fronted from an argumental position to a peripheral one, and leaves a copy (i.e. copy theory of movement):

(10) Quelle photo de lui chaque homme préfère-t-il photo de lui?
'Which picture of him does every man prefer?'

 \Rightarrow Movement is sensitive to islands.

• Ellipsis \rightarrow when a constituent (NP, VP, ...) can be omitted, as it can be recovered from the linguistic context:

- (11) Nadia a choisi la jupe bleue, alors que Sarah préférait la jupe noire.
 'Nadia chose the blue skirt, although Sarah preferred the black (one).'
- \Rightarrow Ellipsis is **not** sensitive to islands.

 \Rightarrow Furthermore, nothing (in principle) prevents from having (partial) ellipsis of a displaced constituent (which would make it more similar to movement, apart from the islandhood property), as (12) shows:

- (12) (a) Les enfants de Marie, j'ai vu les quatre.lit. 'Mary's children, I saw the four.'
 - (b) Les films de Spielberg, je ne connais personne qui ait vu les vingt-sept.lit. 'Spielberg's films, I don't know anybody who saw the twenty-seven.'
 - (c) Les films de Spielberg, je ne connais personne qui ait manqué les plus célèbres. lit. 'Spielberg's films, I don't know anybody who missed the most famous.'

3.2 Resumptives as definite descriptions

Back to our problem: reconstruction holds with resumption in islands (recall (7)). How do we account for this?

 \Rightarrow Just by applying Elbourne (2001)'s view of pronouns as in 'paycheck' sentences⁶:

A famous example of 'paycheck' sentence:

(13) John gave his paycheck to his mistress. Everybody else put it in the bank.

 \Rightarrow How to treat the relation between the pronoun 'it' and its antecedent 'his paycheck'? -neither coreference relation as the pronoun does not refer to a unique and specific individual (reference of the antecedent can vary);

-nor bound variable relation as the structural configuration for variable binding is not met.

Elbourne (2001)'s analysis \Rightarrow pronouns can be seen as definite descriptions composed of a determiner (the pronoun) and the NP-complement which has been elided under identity:

(14) John₁ gave his₁ paycheck to his mistress. Everybody₂ else put $[_{DP}$ it₃ $[_{NP}$ paycheck of him₂]] in the bank.

 \Rightarrow The presence of the bound pronoun in the elided copy straightforwardly accounts for the 'covariant' reading of the pronoun 'it'.

Argument for this analysis \Rightarrow the great similarity between pronouns and determiners in French, as Table.1 shows:

 $^{^{6}}$ Elbourne (2001) treats *e*-type pronouns and pronouns in 'paycheck' sentences in a very similar way.

	(3)sg.	(3)pl.
Pro	il/elle/le/la/lui/l'	ils/elles/les/leur
Det	le/la/l'	les/leur(s)

Table.1: Determiners and Pronouns in French

Our claim: A resumptive pronoun can be interpreted as a definite description within islands.

This claim accounts for unexpected reconstruction within islands. Recall the examples in (7) repeated here in (15):

- (15) (a) Quelle photo₁ de lui₂ es-tu fâché parce que chaque homme₂ l₁'a déchirée?
 'Which picture of him are you furious because each man tore it?'
 - (b) Quelle photo1 de sa2 fille connais-tu quelqu'un à qui chaque homme2 l₁'a montrée?
 'Which picture of his daughter do you know someone whom each man showed it to?'
 - (c) La photo₁ de sa₂ classe, tu es fâché parce que chaque $prof_2 \mathbf{l}_1$ 'a déchirée. 'The picture of his class, you are furious because each teacher tore **it**.'

 \Rightarrow The three resumptive pronouns in these examples can be given the structures in (16)).

- (16) (a) quelle photo₁ de lui₂ ... chaque homme₂ ... $[_{DP}$ l'₁ $[_{NP}$ photo de lui₂]] which picture₁ of him₂ ... each man₂ ... $[_{DP}$ it₁ $[_{NP}$ picture of him₂]]
 - (b) quelle photo₁ de sa₂ fille ... chaque homme₂ ... $[_{DP} l'_1 \text{ photo de sa₂ fille]}$ which picture₁ of his₂ daughter ... each man₂ ... [it₁ picture of his₂ daughter]
 - (c) la photo₁ de sa₂ classe ... chaque prof_2 ... $[_{DP} l'_1 \text{ photo de sa_2 classe}]$ the picture₁ of his₂ class ... each man₂ ... $[_{DP} lt_1 \text{ picture of his_2 class}]$

 \Rightarrow Under (16), binding reconstruction is predicted, as triggers for reconstruction are met:

• The antecedent of the pronoun occupies a peripheral position;

• a copy of the displaced constituent appears within the scope of the quantifier, leading to the bound variable reading of the pronoun/possessive.

3.3 A decisive argument: scope-only vs binding reconstruction

Our analysis straightforwardly accounts for the asymmetry between scope-only and binding reconstruction with resumption. Consider the surprising contrast between (7a), repeated here in (17a), and (17b):

- (17) (a) Quelle photo₁ de lui es-tu fâché parce que chaque homme l₁'a déchirée?
 'Which picture of him are you furious because each man tore it?'
 - (b) Quelle photo₁ es-tu fâché parce que chaque homme l₁'a déchirée?
 'Which picture are you furious because every man tore it?'

 \Rightarrow Only (17a) gives rise to a 'reconstructed' functional reading, not (17b).

(17a) is linked to binding issues. It can have two readings:

-single answer (SA): *la photo de Jean à son mariage* ('the picture of John at his wedding')
No reconstruction: the pronoun *lui* is free (referring to an individual from the context) and there is only one picture.

-functional answer (FA): la photo de lui à son mariage ('the picture of him at his wedding').

• Binding reconstruction: the pronoun *lui* is interpreted as a bound variable.

(17b) is only linked to scope issues. Now it can only have the single individual reading, not the 'reconstructed' functional reading:

-single answer (SA): la photo de Jean ('the picture of John')

• No reconstruction: the pronoun *lui* is free (referring to an individual from the context) and there is only one picture.

-functional answer (FA): impossible as there cannot be a different picture for each man.

Our account: the presence of the resumptive pronoun (as a definite description) leads to a **definite** interpretation of the copy. As the schemas in (18) show, the contrast is then reduced to the one between *every man saw the picture of him* versus *every man saw the picture*.

- (18) (a) quelle photo₁ de lui₂ ... chaque homme₂ ... $[_{DP}$ l'₁ $[_{NP}$ photo de lui₂]] which picture₁ of him₂ ... each man₂ ... $[_{DP}$ it₁ $[_{NP}$ picture of him₂]] \Rightarrow LF: λp . true $(p) \land p = you$ are furious because each man_x tore the picture of x
 - (b) quelle photo₁ ... chaque homme₂ ... $[_{DP} l'_1 [_{NP} photo]]$ which picture₁ ... each man₂ ... $[_{DP} it_1 [_{NP} picture]]$ $\Rightarrow LF: \lambda p. true(p) \land p=you$ are furious because each man_x tore the picture

 \Rightarrow Obviously, only the first case will lead to a functional reading thanks to the bound variable.

4 Further investigations: on copy interpretation

 \Rightarrow To give further arguments for our analysis, based on the way copies are interpreted.

4.1 How copies get interpreted...

Our claim: copies can (in principle) be freely interpreted either as definite or indefinite objects.

A copy can be interpreted as a definite description, as proposed by Fox (2002):

(19) Which boy did Mary visit boy?
 Gloss: Which is the boy, x, such that Mary visited the_x boy.

Following Sauerland (2004), we further assume that the definite determiner can introduce either an individual variable x (see (19)), or a functional variable f:

(20) $\llbracket the_X \rrbracket^g(P)$ is defined if $P(\llbracket X \rrbracket^g) = 1$ if defined, $\llbracket the_X \rrbracket^g(P) = \llbracket X \rrbracket^g$

 \Rightarrow A definite description like 'the picture' can then in principle be interpreted as either the_x picture or the_f picture⁷.

But a copy can also be interpreted as indefinite. For the analysis of indefinites, we argue for the skolemized choice function proposed in Kratzer (1998), i.e. a function that takes two arguments, one individual x and a set of entities P and returns one individual of that set (written $f_x(P)$):

- (21) Every man loves **a** woman.
 - ⇒ Functional reading: one different specific woman for each man LF: every man₁ loves $f_1(\text{woman})$. $\forall x.[man(x) \rightarrow loves(x, f_x(woman))]$

Why do we need interpretation of copies as indefinite? For all the cases of scope-only reconstruction:

- (22) (a) The secretary called the patient that every doctor will examine patient. \Rightarrow LF: The secretary called the λf [every doctor_x will examine $f_x(patient)$]
 - (b) Which patient did every doctor examine patient? $\Rightarrow LF: \lambda p. true(p) \land p = every \ doctor_x \ examined \ f_x(patient)$

 \Rightarrow Skolemized choice function's interpretation of copies is essential to account for scopeonly reconstruction: interpretation of the copy in (22a) and (22b) as an indefinite gives rise to the 'reconstructed' functional readings mapping every doctor to a different and specific patient in both examples.

4.2 Gap vs resumption

Scope-only reconstruction holds with a gap, as examples in (22) and also (23a) show, but disappears with resumption, as confirmed by (17b), repeated here in (23b).

- (23) (a) Quelle photo₁ chaque homme a-t-il déchirée $__1$? (SA/FA) 'Which picture did each man tear?'
 - (b) Quelle photo₁ es-tu fâché parce que chaque homme l₁'a déchirée? (SA/*FA)
 'Which picture are you furious because every man tore it?'

 \Rightarrow Only (23a) allows for the 'reconstructed' functional reading (as a case of scope-only reconstruction).

Our account: the presence of resumption (as a definite description) blocks interpretation of the copy as indefinite, leading to the schemas in (24).

⁷Notice that the second option will be available only in cases where the function can be contextually reconstructed. Obviously, a sentence like *every man saw the woman* will not allow for this option, whereas the secretary called the patient that each doctor will examine will.

- (24) (a) quelle photo₁ ... chaque homme₂ ... $[_{DP} [_{NP} \text{ photo}]]$ which picture₁ ... each man₂ ... $[_{DP} [_{NP} \text{ picture}]]$ $\Rightarrow LF: \lambda p. true(p) \land p = each man_x tore f_x(picture)$
 - (b) quelle photo₁ ... chaque homme₂ ... $[_{DP}$ l'₁ $[_{NP}$ photo]] which picture₁ ... each man₂ ... $[_{DP}$ it₁ $[_{NP}$ picture]] \Rightarrow LF: λp . true $(p) \land p = you$ are furious because each man_x tore the_y picture

 \Rightarrow In (24a), interpretation of the copy as a skolemized choice function (indefinite) gives rise to the functional reading. In (24a), the copy is interpreted as definite (because of the resumptive pronoun) which obviously does not lead to any functional reading⁸.

Notice that similar examples appear in relatives from Hebrew (see Doron (1982)).

(25)	(a)	ha - iSa_2	Se	kol	$gever_1$	hizmin	2	hodeta	$lo_{1/3}.$
		the-woman	Op	every	man	has-invited		has-thanked	him
		'The woman	eacl	$n man_1$	invited	thanked him	$n_{1/3}$.		

(b) ha- iSa_2 Se kol gever_1 hizmin **ota**_2 hodeta $lo_{3/*1}$. the-woman Op every man has-invited her has-thanked him 'The woman each man_1 invited (her) thanked $him_{3/*1}$.'

 \Rightarrow Only (25a) gives rise to a 'reconstructed' functional reading of 'woman', hence allowing for the pronoun *lo* to get a covariant reading.

4.3 Definite vs indefinite relatives

Based on Alexopoulou and Heycock (2002):

- (26) (a) The secretary called the patient that each doctor will examine tomorrow. \Rightarrow Functional reading available
 - (b) The secretary called a patient that each doctor will examine tomorrow. \Rightarrow No functional reading
 - (c) Marie a vu une photo de lui₁ que chaque homme₁ a apporté. 'Mary saw a picture of him₁ that each man₁ has brought.' \Rightarrow Functional reading reappears

 \Rightarrow Recall that a definite antecedent, as in (26a) et (3b), gives rise to a 'reconstructed' functional reading (scope-only reconstruction).

 \Rightarrow The 'reconstructed' reading (FA) disappears with an indefinite antecedent (see (26b)), suggesting that indefinite relatives don't allow for reconstruction (as claimed by Alexopoulou and Heycock (2002) and also Aoun and Li (2003)).

 \Rightarrow But then, how do we account for (26c) in which the functional reading reappears (through binding reconstruction).

Our account: An indefinite relative triggers interpretation of the copy as definite.

This claim gives rise to the following LFs for (26):

 $^{^{8}\}mathrm{Recall}$ that functional reading of a definite description is highly restricted.

- (27) (a) LF: The secretary called the λf [every doctor_x will examine $f_x(patient)$]
 - (b) LF: The secretary called $f_S(\lambda y \text{ [every doctor}_x will examine the}_y \text{ patient])$
 - (c) LF: The secretary called $f_S(\lambda y \text{ [every doctor}_x \text{ will examine the}_{y/g} \text{ patient of } x])$

 \Rightarrow Interpration of the copy as indefinite (skolemized choice function) in (27a) accounts for the functional reading with a definite relative.

 \Rightarrow In (27b) and (27c), the copy is interpreted as definite: the functional reading will only occur in the case of binding reconstruction, i.e. (27c).

Indefinite relatives are then very similar to cases of resumption which also force a definite interpretation of the copy.

4.4 Pair-list vs functional readings (still in progress)

Recall the important note from section 2.3: pair-list readings (PL) do not appear in the unexpected cases of reconstruction with resumption.

(a) Quelle photo₁ de lui₂ chaque homme₂ a-t-il déchirée __1?
'Which picture of him did each man tear?'
⇒ FA: la photo de lui à son mariage ('the picture of him at his wedding')
⇒ PL: ⟨John, picture of his wedding⟩, ⟨Paul, picture of his birthdate⟩,...
(b) Quelle photo₁ de lui₂ es-tu fâché parce que chaque homme₂ l₁ 'a déchirée?
'Which picture of him are you furious because each man tore it?'
⇒ FA: la photo de lui à son mariage ('the picture of him at his wedding')
⇒ *PL: ⟨John, picture of his wedding⟩, ⟨Paul, picture of his birthdate⟩,...

A possible account: skolemized choice functions (interpretation of the copy as indefinite) allow for PL readings, whereas definite descriptions (interpretation of the copy as definite) allow for FA readings.

5 Conclusion

- Reconstruction (linked to binding) can occur within islands, as data from French show.
- Reconstruction follows from two principles:
 - -it requires *Copying* (rather than *Move*);
 - -it requires that the antecedent of the copy be in a peripheral position.
- Copies can be interpreted either as definite descriptions, or as indefinites (skolemized choice functions).
- Resumption and indefinite relatives force interpetation of the copy as definite.

Comments Welcome!

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