To Reconstruct or Not to Reconstruct:
That is the Question[*]

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Overview

The Starting Point: to develop and compare two possible accounts of reconstructed/distributive readings within displacement structures (dislocation, interrogation, relativization) based on two formalizations of syntax-semantics interface

Account #1: Generative Grammar and Logical Form (GG)
⇒ distributive readings of displaced constituents rely on syntactic reconstruction.

Account #2: Categorial Grammar and Variable-Free Semantics (CG-VFS)
⇒ distributive readings of displaced constituents do not rely on syntactic reconstruction.

Goal #1: to show that such comparison reinforces two fundamental claims about distributive readings with resumption

(Theoretical) Claim #1: distributive/reconstructed readings with resumption just amount to an *e*-type interpretation of the resumptive pronoun.

(Empirical) Claim #2: distributive/reconstructed readings with resumption should and do occur in presence of syntactic islands.

Goal #2: to (re)introduce two generalizations about resumption which seem to favor the GG account based on actual reconstruction

Generalization #1: resumption only allows for a functional interpretation, but not a pair-list interpretation (based on Sharvit (1997)).

Generalization #2: weak resumption allows for distributive readings in any context, but strong resumption does not.

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1 Reconstruction data

Reconstruction as an analysis: mechanism by which movement is 'deconstructed'.

(1) *Which picture of his$_1$ did every man$_1$ tear?*
$\Rightarrow$ Literal reconstruction: *Every man$_1$ tore which picture of his$_1$?*

Reconstruction as a problem: interaction between displacement (dislocation, interrogation, relativization) and structural constraints on interpretation (binding or scope).
$\Rightarrow$ distributive/reconstructed readings, reconstruction data.

1.1 Binding and Scope Reconstruction

Two classical examples from French to illustrate binding reconstruction in (2) and scope reconstruction in (3) (here with interrogation):

(2) *Quelle photo$_1$ de lui$_2$ est-ce que chaque homme$_2$ a déchirée __$_1$?*
'Which picture of him(self) did each man tear?'
Celle de son mariage.
'The one from his wedding'

(3) *Quelle femme$_1$ est-ce que chaque homme invitera __$_1$?*
'Which woman will each man invite?'
Son épouse.
'His wife'

$\Rightarrow$ distributive reading of *quelle photo de lui* and *quelle femme* with respect to the universal quantifier *chaque homme* is confirmed by the possible functional/distributive answers.

- BINDING RECONSTRUCTION in (2): distributivity resulting from presence of a potentially bound variable *lui* in the displaced and reconstructed constituent.

- SCOPE RECONSTRUCTION in (3): distributivity resulting from the indefinite property of the displaced and reconstructed constituent *quelle femme*[1]

(2) and (3) often referred as functional questions (see Engdahl (1980) or Jacobson (1999)).

1.2 Reconstruction and Resumption

Resumption: detachment strategy in natural language (interrogation, dislocation) by which a pronoun, instead of a gap, occupies the thematic position of the detached constituent, hence resuming or doubling that constituent

(4) (a) *La photo de sa$_2$ fille, chaque homme$_2$ **l**'a déchirée.* (French)
'The picture of his daughter, each man tore it.'

(b) *ʔayya Surah$_1$ kul zalamih$_2$ mazaʕ -ha$_1$?* (Jordanian Arabic)
which picture every man tear.*past.3s-Cl*
'Which picture did every man tear (it)?'

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[1]For more arguments to analyze interrogative constituents as indefinites, see Reinhart (1997) among others.

Major property of resumption first noticed by Aoun et al. (2001): it does allow for re-constructed readings[2]. Consider dislocation from French and question from Jordanian Arabic:

(5)   *La photo de sa$_2$ fille, chaque homme$_2$ **l**'a déchirée.*
       'The picture of his daughter, each man tore it.'

⇒ distributive reading of *la photo de sa fille* 'the picture of his daughter' in (5) is clearly available (see the bound reading of the possessive *sa* 'his' with respect to *chaque homme* 'each man').

(6)   *ʔayya Surah$_1$ il-uh$_2$ kul   zalamih$_2$ mazaʕ -ha$_1$?*
       which picture of-him every man   tear.*past.3s-Cl*
       'Which picture of him(self) did every man tear (it)?'

       Surit zawaʒ-uh.
       'The picture of his wedding.'

⇒ distributive reading of the question in (5) is clearly available, as shown by the possible functional answer.

1.3   Traditional claim about reconstructed/distributive readings

Traditional Claim: functional/distributive readings of displaced constituents crucially rely on presence of syntactic movement of that constituent.

1.3.1   Traditional account of binding reconstruction

Popular account of binding reconstruction: copy theory of movement

   ⋆ syntactic mechanism given by Lebeaux (1990), Chomsky (1995) or Sauerland (2004) among others, based on interpretation of an internal copy of the displaced constituent

(7)   *Quelle photo$_1$ de lui$_2$ est-ce que chaque homme$_2$ a déchirée ~~photo$_1$ de lui$_2$~~?*
       'Which picture of him(self) did each man tear ~~picture of him(self)~~?'

⇒ presence of *lui* within the c-command domain of *chaque homme* 'every man' via the copy, hence accounting for its bound variable interpretation, and consequently the distributive reading of the *wh-* phrase.

1.3.2   Traditional account of scope reconstruction

Engdahl (1980)'s approach to functional questions (scope reconstruction data): existence of complex traces (left by movement), and more precisely functional traces

(8)   *Schema for (3):*
       SYN: quelle femme$_1$ est-ce que chaque homme$_2$ invitera $t_{1(2)}$
       SEM: $\lambda p \exists g_{\langle e,e \rangle}.[range(g) = woman' \wedge p = \forall y.[man'(y) \rightarrow invite'(y, g(y))]]$
       ⇒ *What is the function g ranging over women such that every man$_y$ tore g(y)?*

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[2]Aoun et al. (2001)'s study is based on dislocation in Lebanese Arabic, while this paper focuses mainly on French data, and also Jordanian Arabic.

$\Rightarrow$ presence in syntax of a functional trace (with a complex index) $t_{1(2)}$ in the thematic position: one λ-abstraction over skolem functions $g_{\langle ee \rangle}$ (index 1), and one λ-abstraction over individuals $y_{\langle e \rangle}$

1.3.3 Traditional account of reconstruction with resumption

Aoun et al. (2001)'s account for distributive readings with resumption: notion of *apparent resumption* based on syntactic movement

- ⋆ *Apparent resumption* $\Rightarrow$ presence of a syntactic copy left by movement and adjoined to the resumptive pronoun[3]:

(9) *təlmiiz₂-a₁ l-kəsleen ma baddna nχabbir wala mʕallme₁ ʔənno l-mudiira*
     student-her the-bad *Neg* want.*1p* tell.*1p* no   teacher   that   the-principal
     ʃahatət-o₂   mn   l-madrase
     expelled.*3sf-Cl* from the-school
     'Her₁ bad student₂, we don't want to tell any teacher₁ that the principal expelled **him₂** from school.'

(10) *Schema of apparent resumption:*
      $[_{DP}$ ~~*təlmiiz₂-a₁ l-kəsleen*~~ $[_{DP}$ -o₂ $]]$
      $[_{DP}$ student-her the-bad   *Cl* $]$

2 Two models of syn-sem interface for two accounts

Two novel accounts of reconstructed/distributive readings within displacement structures based on two formalizations of syntax-semantics interface

Account #1: Generative Grammar and Logical Form (GG)
$\Rightarrow$ distributive readings of displaced constituents rely on syntactic reconstruction.

Account #2: Categorial Grammar and Variable-Free Semantics (CG-VFS)
$\Rightarrow$ distributive readings of displaced constituents do not rely on syntactic reconstruction.

2.1 Account #1 (GG): If I were Irene Heim

GG model of syntax-semantics interface: functional readings of displaced constituents follow from literal reconstruction of those constituents.

(11) *Reconstructed/distributive reading of a displaced XP requires presence of a copy of that XP, resulting either from movement, or crucially from an ellipsis phenomenon.*

2.1.1 Gaps (traces) as syntactic copies

Following Fox (2003) or Heim and Jacobson (2005), gaps left by movement as syntactic copies, and more precisely definite descriptions[4]:

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[3]For more details, see Aoun et al. (2001).

[4]This assumption corresponds to Fox (2003)'s notion of *Trace Conversion*, a syntactic mechanism to transform gaps/traces into definite descriptions composed of a determiner and a predicate restriction (the restriction of the moved item).

(12)   *Schema for (3) under a GG account[5]:*
       Quelle femme₁ est-ce que chaque homme invitera __₁?
       'Which woman will each man invite?'

LF:
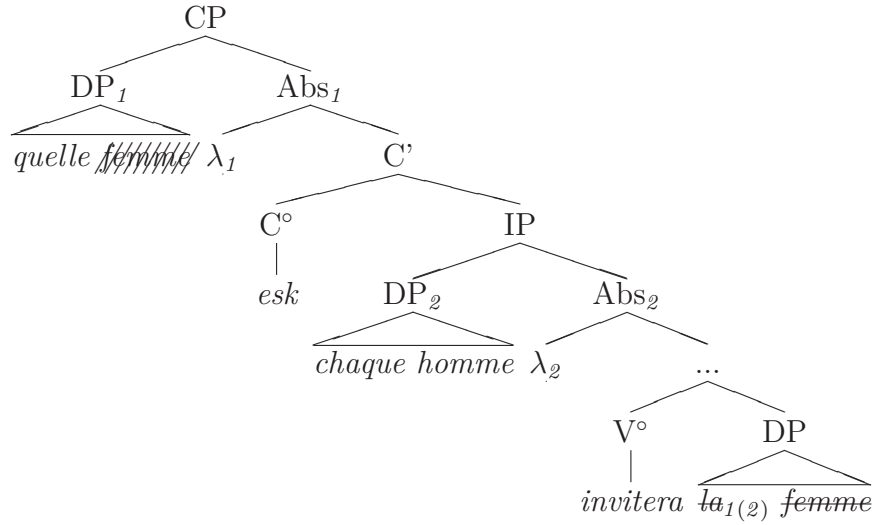
SEM: $\lambda p \exists g_{\langle ee \rangle}.[p = \forall y.[man'(y) \rightarrow invite'(y, g(y))]]$
       presupposition: $\forall g.[g \in C \rightarrow \forall y.[man'(y) \rightarrow woman'(g(y))]]$
       $\Rightarrow$ *What is the function $g_{\langle ee \rangle}$ such that each man$_y$ will invite the$_{g(y)}$ woman (with presupposition that contextually salient functions g map men to women)?*

$\Rightarrow$ A combination of several previous accounts:

- presence of a syntactic copy (copy theory of movement) interpreted as a definite description (*la femme*)

- existence of a complex/functional index (Engdahl (1980)'s account) on the definite determiner (instead of the trace)

$\Rightarrow$ Definite copy: functional reading with a presupposition over the functions *g*

Technical Requirements:
-No interpretation of the restriction in the peripheral position;
-Requires a polymorphic *which*[6].

Binding reconstruction in (2) follows straightforwardly:

(13)   *Quelle ~~photo de lui~~ est-ce que chaque homme₂ a déchirée ~~la_{I(2)} photo de lui₂~~?*
       'Which ~~picture of him(self)~~ did each man tear the ~~the_{I(2)} picture of him(self)₂~~?'

$\Rightarrow$ Bound variable reading of *lui* 'him(self)' follows from syntactic reconstruction (interpretation of the bottom copy).

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[5]//// means uninterpreted (deleted at LF), and —— means unpronounced (deleted at PF).
[6]Two distinct denotations are required at least:

(1)   (a)   'individual' $[\![which]\!] = \lambda F_{\langle e, \langle st, t \rangle \rangle}.\lambda p_{\langle st \rangle}.\exists x_e.[F(x)(p)]$

      (b)   'skolem' $[\![which]\!] = \lambda F_{\langle ee, \langle st, t \rangle \rangle}.\lambda p_{\langle st \rangle}.\exists g_{\langle ee \rangle}.[F(g)(p)]$

2.1.2 Resumptive pronouns as definite descriptions

Following Guilliot and Malkawi (2006) and Guilliot (2006), resumptive pronouns as syntactic copies resulting from ellipsis on the resumptive clitic.

* ⋆ Extension of Elbourne (2002)'s analysis of pronouns as definite descriptions: a determiner (the pronoun) and an elided restriction[7]

(14) ~~La photo de sa₂ fille~~, chaque homme₂ a déchiré [DP l(a) [NP_δ ~~photo de sa₂ fille~~]]
      ~~The picture of his daughter~~, each man tore [DP it [NP_δ ~~picture of his daughter~~]]

⇒ Distributive reading of both *la photo de sa fille* and the resumptive clitic *l(a)* follows from syntactic reconstruction in the elided site.

Technical Requirement: for the case of dislocation, no interpretation at all in the peripheral position.

2.2 Account #2 (CG-VFS): If I were Pauline Jacobson

CG-VFS model of syntax-semantics interface (based on Jacobson (1999) and Heim and Jacobson (2005)): functional readings of displaced constituents do not follow from literal reconstruction of those constituents.

(15) *Reconstructed/distributive reading of a displaced XP follows directly from the way binding is implemented, and the way pronouns are treated.*

2.2.1 Introduction to the CG-VFS model (based on Jacobson (1999)

Primary objectives:

* to dispense with intermediate representations such as Logical Form

* to develop semantic calculus directly from surface structure (a kind of WYSIWYG model of syn-sem interface) in a very local way

Formal Basics[8]:

* syntax based on Categorial Grammar[9]

* direct semantic composition through combination rules such as:

  - functional application

  - function composition

  - compositional unary rules (similar to type-shifting rules).

* no variable as theoretical object, and no indices in syntax

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[7]For more details and arguments on the analysis of pronouns as determiners, see Elbourne (2002).

[8]For more details, please refer to Jacobson (1999).

[9]In this study, I will only concentrate on VFS, as the account for functional readings in this model does not pertain to syntax (CG) at all. Just bear in mind that that direct composition between the constituents is also restricted by syntax, and each compositional rule has a syntactic correspondence.

Pronouns (kind of variables) as identity functions over individuals ($\lambda x.x$) or functions ($\lambda f_{\langle e,e\rangle}.f$), that individual or function being just provided by the context.

(16)   *He left.*
     -$[\![he]\!]=\lambda x.x$ (type $\langle e,e\rangle$)
     -$[\![left]\!]=\lambda y.y\ left$ (type $\langle e,t\rangle$)

$\Rightarrow$ requires *Function Composition* rule to overcome apparent semantic incompatibility:

(17)   **Function Composition**[10]**:**   if α and β are respectively of type $\langle \sigma, \tau \rangle$ and $\langle a, \sigma \rangle$,
     then $[\![\alpha\beta]\!]=[\![\alpha]\!]\circ[\![\beta]\!]=\lambda V_a.[\![\alpha]\!]([\![\beta]\!](V))$.

(18) $[\![he\ left]\!]=[\![left]\!]\circ[\![he]\!]=\lambda x_e.[\![left]\!]([\![he]\!](x))=\lambda x_e.[\![left]\!](\lambda y.y(x))=\lambda x.x\ left$

$\Rightarrow$ In VFS, $[\![he\ left]\!]$ looks very similar to $[\![left]\!]$, except that the former is syntactically/semantically saturated, but pragmatically unsaturated.

An unbound pronoun in VFS always creates an open slot which just needs to be pragmatically saturated (to be provided by the context):

(19)   a. $[\![Mary\ saw\ him]\!]=\lambda x.Mary\ saw\ x$

     b. $[\![the\ picture\ of\ his\ daughter]\!]=\lambda x.\iota y.y\ is\ the\ picture\ of\ x's\ daughter$

What about binding, i.e. bound pronouns? based on another compositional rule, the *z-rule*, and crucially not via a syntactic requirement like c-command:

(20)   **z-rule:**   Let α be an expression of the form $\langle [\alpha], [\![\alpha]\!]\rangle$. Then there is an expression
     β of the form $\Big\langle [\alpha],\ \ z[\![\alpha]\!]=\lambda f_{\langle e,e\rangle}[\lambda x[[\![\alpha]\!](f(x))(x)]]\Big\rangle$

(21)   *John loves his mother.*
     $[\![z(loves)]\!]=\lambda f.\lambda x.[\![loves]\!](f(x))(x)=\lambda f.\lambda x.x\ loves\ f(x)$

$\Rightarrow$ a predicate like $love_{\langle e,\langle e,t\rangle\rangle}$ shifts by *z*-rule to denote a relation of type $\langle\langle e,e\rangle,\langle e,t\rangle\rangle$:

(22) $[\![John\ z(loves)\ his\ mother]\!]=[\![z(loves)]\!]([\![his\ mother]\!])([\![John]\!])$
         $=[\lambda f.\lambda x.[\![loves]\!](f(x))(x)](\lambda y.the\ mother\ of\ y)(John)$
         $=[\lambda x.[\![loves]\!]([\lambda y.the\ mother\ of\ y](x))(x)](John)$
         $=[\lambda x.[\![loves]\!](the\ mother\ of\ x)(x)](John)$
         $=[\![loves]\!](the\ mother\ of\ John)(John)$
         $=[\lambda v.\lambda k.k\ loves\ v](the\ mother\ of\ John)(John)$
         $=John\ loves\ the\ mother\ of\ John$

2.2.2   Gaps as ... nothing

Gaps in functional questions (well, anywhere) have no semantic contribution in VFS

   $\star$ Only instances of *Function Composition* and *z*-rule to get the functional reading:

(23)   *Semantic calculus of (3) under (CG-)VFS:*
     Quelle femme est-ce que chaque homme invitera?
     'Which woman will each man invite?'
     Son épouse.
     'His wife'

SEM: $\beta = z(invitera) \rightarrow$ type $\langle ee, et \rangle$
$\alpha = chaque\ homme \rightarrow$ type $\langle et, t \rangle$
$[\![chaque\ homme\ z(invitera)]\!] = [\![chaque\ homme]\!] \circ [\![z(invitera)]\!]$
$\quad = \lambda f_{\langle e,e \rangle}.[\![chaque\ homme]\!]([\![z(invitera)]\!](f))$
$\quad = \lambda f_{\langle e,e \rangle}.[\![chaque\ homme]\!]([\lambda h.\lambda x.[\![invitera]\!](h(x))(x)](f))$
$\quad = \lambda f_{\langle e,e \rangle}.[\![chaque\ homme]\!](\lambda x.[\![invitera]\!](f(x))(x))$
$\quad = \lambda f_{\langle e,e \rangle}.[\lambda P.\forall y.man(y) \rightarrow P(y)](\lambda x.[\![invitera]\!](f(x))(x))$
$\quad = \lambda f_{\langle e,e \rangle}.[\forall y.man(y) \rightarrow [\lambda x.[\![invitera]\!](f(x))(x)](y)]$
$\quad = \lambda f_{\langle e,e \rangle}.[\forall y.man(y) \rightarrow [\![invitera]\!](f(y))(y)]$
$\quad = [\lambda f.[\forall y.man(y) \rightarrow [\lambda x.\lambda v.v\ will\ invite\ x](f(y))(y)]]$
$\quad = [\lambda f.[\forall y.man(y) \rightarrow [\lambda v.v\ will\ invite\ f(y)](y)]]$
$\quad = [\lambda f.[\forall y.man(y) \rightarrow y\ will\ invite\ f(y)]]$

$\Rightarrow$ Direct interpretation in VFS creates an open slot corresponding to a function $f_{\langle ee \rangle}$, hence accounting for the functional reading[11]:

(24)   *What is the function $f_{\langle ee \rangle}$ ranging over women such that each man y will invite $f(y)$?*

2.2.3   Resumptive pronouns as ... pronouns

In VFS, resumptive pronouns just as regular pronouns, i.e. as identity functions over individuals x (for individual readings) or over functions f (for functional readings)

⋆ Resumptive pronoun as the identity function over functions ($\lambda f.f$):

(25)   *Schema for (5) under (CG-)VFS:*
*La photo de sa fille, chaque homme **l**'a déchirée.*
'The picture of his daughter, each man tore it.'

SEM: -$[\![$la photo de sa fille$]\!] = \lambda x.\iota y.y$ *is the picture of x's daughter*
-$[\![$la$]\!] = \lambda f.f$
-$[\![$chaque homme a déchiré l(a)$]\!] = \lambda f.[\forall x.man(x) \rightarrow x\ tore\ f(x)]$
with f given by the displaced constituent: $f = \lambda x.\iota y.y$ *is the picture of x's daughter*

$\Rightarrow$ A kind of coreference over functions (instead of individuals) between:
-the resumptive clitic *l(a)*, introducing an open slot for a skolem function f
-the dislocated element *la photo de sa fille*, introducing that contextual skolem function[12].

Conclusions:
-the possessive *sa* 'his' within the displaced constituent $\rightarrow$ an unbound individual pronoun
-the resumptive clitic *l(a)* 'it' $\rightarrow$ an unbound functional pronoun

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[11]That semantic output presumably occurs as argument of *quelle femme* 'which woman'

[12]It might be a bit more complex in the case of interrogation. Heim and Jacobson (2005) proposes another compositional rule, the *m*-rule, to get binding into heads. For more details, see Jacobson (1999) and Heim and Jacobson (2005).

3 Comparing the Two Accounts

3.1 Both Accounts on the Right Track?

Our first goal: to show that such comparison reinforces two fundamental claims about distributive readings with resumption

Theoretical Claim #1: distributive/reconstructed readings with resumption just amount to an *e*-type interpretation of the resumptive pronoun.

Empirical Claim #2: distributive/reconstructed readings with resumption should and do occur in presence of syntactic islands.

3.1.1 An E-type Phenomenon

Both accounts of functional readings with resumption amount to the same theoretical generalization:

(26) *distributive/reconstructed readings with resumption follow from an e-type interpretation of the resumptive pronoun.*

Following Elbourne (2002) and traditional literature, two processes that can give rise to a covariant/distributive reading of an anaphoric expression:
- bound variable (BV) interpretation (through c-command in GG, and *z*-rule in VFS);
- *e*-type interpretation (see Evans (1980)).

***e*-type anaphora**[13]**:** distributive/covariant interpretation of anaphoric expressions which does not result directly from BV interpretation

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

  b. *Every man loves **his mother**, but no man marries **her**.*

$\Rightarrow$ *it* and *her* can have a covarying interpretation:
-*it* refers to a different *paycheck* with respect to *each person*
-*her* refers to a different *mother* with respect to *each man.*
Intuitively, a direct link between *e*-type interpretation of a pronoun and the distributive/functional potential of its antecedent (here *his paycheck* or *his mother*)

***e*-type in a GG framework.** Elbourne (2002)'s formalization of *e*-type anaphora as definite descriptions composed of a determiner (the pronoun) and an NP complement which has been elided under identity:

(28) *John_1 gave his_1 paycheck to his mistress. Everybody_2 else put [_DP it [_{NP_δ} ~~paycheck of him_2~~]] in the bank.*

$\Rightarrow$ covarying/*e*-type interpretation of *it* follows from presence of the bound pronoun *him* in the elided copy

$\Rightarrow$ On a par with the GG approach to functional readings with resumption (see schema in (14))

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[13]also referred as *donkey anaphora.*

e-type in VFS. Jacobson (1999)'s formalization of *e*-type anaphora as the identity function over functions ($\lambda f.f$)

(29) *Schema for (27b) under (CG-)VFS:*
  -$[\![$his mother$]\!] = \lambda x.\iota y.y$ *is $x's$ mother*
  -$[\![$her$]\!] = \lambda f.f$
  -$[\![$no man marries her$]\!] = \lambda f.[\neg\exists x.man(x) \to x$ *marries* $f(x)]$
  with f given by the context: $f = \lambda x.\iota y.y$ *is $x's$ mother*

$\Rightarrow$ A kind of coreference over functions between
-the *e*-type pronoun *her* (introducing the open slot for a contextual function f)
-its potential antecedent *his mother* providing that function.

$\Rightarrow$ On a par with the VFS approach to functional readings with resumption (see schema in (25)).

Conclusion: functional readings with resumption correspond to an *e*-type phenomenon
    -via NP-ellipsis for GG account (a la Elbourne (2002))
    -via identity function over functions ($\lambda f.f$) under VFS.

3.1.2 Islandhood

Traditional Accounts: functional/distributive readings of displaced constituents crucially rely on presence of syntactic movement of that constituent
$\Rightarrow$ *Natural prediction:* distributive/reconstructed readings should never occur in presence of syntactic islands.

Our novel accounts: functional/distributive readings do not rely exclusively (for GG) or at all (for VFS) on presence of movement
$\Rightarrow$ *Natural prediction:* distributive/reconstructed readings could in principle occur in presence of syntactic islands.

Resumption as a perfect tool to test that prediction, as it can circumvent islandhood in many languages (such as French, Arabic among others):

(30) (a) *Quel étudiant est-ce que tu te demandes $[_{Wh-\ Island}$ si le doyen **l'**a renvoyé]?*
        'Which student do you wonder whether the principal expelled him?'

    (b) *Cet étudiant, tu es furieux $[_{Adj\ Island}$ parce que le doyen **l'**a renvoyé].*
        'This student, you are furious because the principal expelled him.'

And functional/distributive readings **do** occur in presence of syntactic islands (as first noticed in Guilliot and Malkawi (2006)[14]):

(31) a. *Le livre$_1$ qu'il$_2$ a emprunté, je suis fâché parce qu'aucun étudiant$_2$ ne **l**$_1$'a rapporté.*
        'The book he had borrowed, I'm furious because no student brought **it** back.'

    b. *?Quelle photo$_1$ de sa$_2$ fille est-ce que tu te demandes si chaque homme$_2$ **l**$_1$'a gardée?*
        'Which picture of his daughter do you wonder whether each man kept **it**?'
        Celle de son mariage.
        'The one from her wedding'

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[14]Similar data in Jordanian Arabic can be found in Guilliot and Malkawi (2006).

$\Rightarrow$ functional/distributive readings of the displaced constituent and the resumptive clitic **are** available:

  -in (31a), a different book with respect to each student
  -in (31b), a different picture for each man.

$\star$ Left unexplained under traditional accounts based on movement $\Rightarrow$ presence of the adjunct island in (31a) or the *wh-* island in (31b) should block syntactic reconstruction

$\star$ Straightforward under our GG account $\Rightarrow$ the relation between the displaced constituent and the resumptive is based on ellipsis

$\star$ Straightforward under our VFS account $\Rightarrow$ the relation between the displaced constituent and the resumptive is based on a kind of coreference over functions.

3.2   Teasing the Two Accounts Apart

Our second goal: to (re)introduce two generalizations about resumption which could tease the two accounts apart, and favor the GG account

Generalization #1: resumption only allows for a functional interpretation, but not a pair-list interpretation (based on Sharvit (1997)).

Generalization #2: weak resumption allows for distributive readings in any context, but strong resumption does not.

3.2.1   Pair-list vs Functional Readings

Further distinction within distributive readings: functional *vs* pair-list

(32)   *Quelle photo$_1$ de lui$_2$ est-ce que chaque homme$_2$ a déchirée __$_1$?*
       'Which picture of him(self) did each man tear?'

  (a)   Functional answer:
        $\sqrt{}$*Celle de son mariage.*
        'The one from his wedding'

  (b)   Pair-list answer:
        $\sqrt{}$*Pour Jean, c'est celle de sa naissance; Paul, celle de son mariage,...*
        'For John, the one from her birth; Paul, the one from her wedding,...'

$\Rightarrow$ Possible distributive readings of the question based on the possible answers:
    -a functional reading/answer
    -a pair-list (PL) reading/answer

Well-known property of resumption (noticed in Sharvit (1997)): it bans the pair-list (PL) reading

(33)   Interrogation in French:
       *Quelle photo$_1$ de sa$_2$ fille est-ce que tu te demandes si chaque homme$_2$ **l**$_1$ 'a gardée?*
       'Which picture of his daughter do you wonder whether each man kept **it**?'

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(a)   Functional answer:
$\sqrt{}$*Celle de son mariage*
'The one from her wedding'

(b)   Pair-list answer:
**Pour Jean, c'est celle de sa naissance; Paul, celle de son mariage,...*
'For John, the one from her birth; Paul, the one from her wedding,...'

Generalization #1: resumption only allows for a functional interpretation, but not a pair-list interpretation (based on Sharvit (1997)).

What makes a gap different from a resumptive pronoun?
Our assumption: a resumptive pronoun is definite by nature (adding presupposition), a gap is not

⋆ Possible formalization under a GG account:

- the PL reading (with a gap) follows from scope reconstruction

- following Sauerland (1998) and Aguero-Bautista (2001), a syntactic copy can be interpreted as an indefinite, and more precisely a skolemized choice function $f_{\langle\langle e,t\rangle,\langle e,e\rangle\rangle}$ (CH), which takes two arguments, a set of individuals (i.e. a property) P and an individual x, and returns one element of the set $(f(P)(x)$, where $f(P)(x) \in P)$[15]

- illustration of the PL reading in (32):

  (34) LF: *Quelle ~~photo de lui₂~~ λ_1 est-ce que chaque homme λ_2 a déchirée $\cancel{f_1^2}$ ~~(photo de lui₂)~~?*

  SEM: $\lambda p.\exists f.[CH_s(f) \wedge p = \forall x.[man'(x) \rightarrow tore'(x, f(picture\ of\ x')(x))]]$
  $\Rightarrow$ *What is the skolemized choice function $f_{\langle et,ee\rangle}$ such that each man$_x$ tore $f_x(picture\ of\ x)$?*

- PL reading obviously blocked when resumption is at stake, as the latter forces a definite interpretation of the copy.

⋆ Left unexplained under a VFS account of distributive/functional readings:

- gaps and resumptive pronouns are treated in a very similar way

- Jacobson (1999) relies on Engdahl (1980)'s account of functional questions...

- for Engdahl (1980), the PL reading is the extension of the functional reading (direct implication from functional reading to PL reading)...

- but such direct implication conflicts with Generalization #1.

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[15]First introduced by Kratzer (1998) to account for distributive and specific readings of the indefinite:

(1)   *Every man loves **a** (certain) woman.*
$\Rightarrow$ one different & specific woman for each man
LF: every man$_1$ loves f_1(woman).
$\forall x.[man(x) \rightarrow [loves(x, f(woman)(x))]]$

3.2.2 Weak vs Strong Resumption

Further distinction within resumptive items: weak resumption (clitics) *vs* strong resumption (strong pronouns and epithets)

Such distinction is relevant for functional readings, as shown from Jordanian Arabic data below:

(35) a. *[ṭalib-[ha]₁ l-kassoul]₂ ma ħakjan maʕ [wala mʕallmih]₁ gabl-ma*
          student-her the-bad   *Neg* talked.*1pl* with no   teacher   before
          tʃuf-uh₂   / -uh₂ hu₂ l-mudiirah
          saw.*3sf-Cl* / *-Cl* he   the-principal.*3sf*
          'Her bad student, we didn't talk to any teacher before the principal saw him.'

      b. **[ṭalib-[ha]₁ l-kassoul]₂ ma ħakjan maʕ [wala mʕallmih]₁ gabl-ma hu₂*
          student-her the-bad   *Neg* talked.*1pl* with no   teacher   before he
          / ha-l-ġabi₂   yesal
          / the-idiot.*3sm* arrive.*3sm*
          'Her bad student, we didn't talk to any teacher before he / this idiot arrived.'

⇒ presence of strong resumption (the epithet *ha-l-ġabi₂* or strong pronoun *hu₂*) within the island blocks the functional/distributive reading.

Generalization #2: within islands, weak resumption allows for functional/distributive readings, but strong resumption does not.

What makes weak anaphoric items different from strong anaphoric ones?
Our assumption: they syntactically differ with respect to their internal structure.

⋆ Possible formalization under a GG account:

- functional readings with resumption rely on an *e*-type phenomenon, i.e. presence of an elided copy as the syntactic restriction of the resumptive

- but strong anaphoric expressions are full DPs (following Benmamoun (2000) and Aoun et al. (2001)):

  (36) a. Strong pronoun: $[_{DP}$ h- $[_{NP}$ ϕ-morpheme $]]$
        b. Epithet: $[_{DP}$ ha- $[_{D'}$ l- $[_{NP}$ gabi$]]$

- syntactic reconstruction via ellipsis (to get the functional reading) is blocked.

⋆ Left unexplained under a VFS account of distributive/functional readings:

- functional readings with resumption rely on an *e*-type phenomenon, i.e. interpretation of the resumptive as the identity function over functions

- why would such mechanism be blocked when strong resumption is at stake?

- and how could syntax (CG) come to the rescue if the account for functional readings does not pertain to syntax at all?

4 Conclusion

⋆ Two possible accounts for functional readings within displacement structures

Account #1: Generative Grammar and Logical Form (GG)
⇒ distributive readings of displaced constituents rely on syntactic reconstruction.

Account #2: Categorial Grammar and Variable-Free Semantics (CG-VFS)
⇒ distributive readings of displaced constituents do not rely on syntactic reconstruction.

⋆ Both accounts reinforce two claims about distributive readings with resumption
(Theoretical) Claim #1: distributive/reconstructed readings with resumption just amount to an *e*-type interpretation of the resumptive pronoun.
(Empirical) Claim #2: distributive/reconstructed readings with resumption should and do occur in presence of syntactic islands.

⋆ Two generalizations seem to favor the GG account
Generalization #1: resumption only allows for a functional interpretation, but not a pair-list interpretation (based on Sharvit (1997)).
Generalization #2: weak resumption allows for distributive readings in any context, but strong resumption does not.

⋆ Further questions & issues:

- does this study show that the GG account is better than the VFS account? not really...

  – our assumptions about weak/strong resumption and functional/pair-list readings might be on the wrong track

  – VFS might be further developed so as to account for the problematic data (by adding choice functions and presupposition projections to the system)

- what about relative clauses? work in progress...

Questions, Comments and Help Welcome!

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