The Third Reading of the most expensive photo of Abby

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1. Three Readings of Superlatives

(1) Sally bought the largest photo of Bunny.

Absolute reading (ABS):
"The photo of Bunny that Sally bought is larger than other photos of Bunny."

Relative reading with NP external focus (REX) (Szabolcsi 1986, Heim 1999)
"Sally bought a larger photo of Bunny than others did."

Relative reading with NP internal focus (RIN) (Pancheva & Tomaszewicz 2012)
"The photo of Bunny that Sally bought is better than the photos of others that Sally bought."

RIN   ABS

(2) Iwan ma   naj-lepsze   albumy   U2.   (Polish)
    Ivan has   naj-better.ACC albums.ACC U2.
Pancheva & Tomaszewicz 2012: RIN √

2. Generalizations of the Distribution

Generalization I: Polish type languages (Polish, Slovenian, etc.)
RIN in Polish-type languages: RIN is only available when the focus element is an adjunct to the NP but not an argument of N. (Shen 2013)

(3) a.# Janez je spoznal najmlajse studente   lingvistike.   (Slovenian)
      Jan   is meet   est-young student.PL Linguistics.GEN.
    b.√ Janez je spoznal najmlajse studente z oddelka za lingvistiko.
      Jan   is meet   est-young student.PL from linguistics department.
    Lit.: "Jan met the youngest students from the department of Linguistics."
    RIN: "Among the students that Jan met, the youngest are of Linguistics."

Generalization II: Mandarin Chinese
RIN is only possible when the NP internal focus is overtly moved to a position c-commanding the degree phrase (DegP).

(4) a. # Zhangsan maile   Abby de zuigui   de zhaopian.
         Zhangsan buy.ASP Abby LNK most.expensive LNK photo.
    b. # Zhangsan maile   shui de zuigui   de zhaopian?
         Zhangsan buy.ASP who LNK most expensive LNK photo?
         'Of whom did Zhangsan buy the most expensive picture?'
    c. √ Shi Abby Zhangsan maile   zuiguide   zhaopian.
         Shi Abby Zhangsan buy-ASP most-expensive photo.
         'It is Abby that Zhang bought the most expensive photo of.'
    d. √ Zhangsan maile   zuiguide   zhaopian de shi Abby.
         Zhangsan buy.ASP most-expensive photo   LNK is Abby.
         'Who Zhangsan bought the most expensive photos of is Abby.'

Generalization II in English type languages (English, German)
RIN is only possible when the NP internal focus is overtly moved to a position c-commanding the degree phrase (DegP).

Scenario I: John, Bill, Mary - photo collectors.
             Abby, Ben, Cara - models. Prices of photos are listed below.

John- Abby: $800   Bill- Ben: $600   Mary - Abby: $900
      Ben: $700   Abby: $500   Cara: $300
      Cara: $200   Cara: $200   Ben: $200

(5)
a. # John bought the most expensive photo of Abby.   (Canonical)
b.   Did John buy the most expensive photo of Abby?   (Polar question)
    # -Yes

c.   Who did John buy the most expensive photo of?   (Wh-question)
    √-Abby.   (This reading in wh-questions is noted in Szabolcsi 1986) (Fragment answer)
d. √ It was Abby who John bought the most expensive photo of. (It-cleft)
e. √ Who John bought the most expensive photo of is Abby. (Pseudo-cleft)
f. √ Abby was the model that John bought the most expensive photo of.
                                                             (Relative Clause)
g. # A different collector bought the most expensive photo of every model. (QR)
h. # School A admitted the oldest child of the same family as School B did.(ACD)
i. # Did John buy the most expensive photo of Abby, Ben, or Cara?
                                                             (Alternative question)

3. Semantics

Semantics of Superlatives
(6) Denotation of EST (Heim 1999)
$⟦\text{-est}⟧ = λC_{<e,t>}λD_{<d,<e,t>>}λx_e \, ∃d[D(d)(x) ∧ ∀y [y∈C ∧ y≠x →¬D(d)(y)]]$
-est(C)(D)(x) is defined iff (i) $x ∈C$ and (ii)$∀y [y∈C→∃d[D(d)(y)]]$

$⟦\text{best}⟧ = ⟦\text{EST}⟧(C)(⟦\text{good}⟧)$
$= λx.∃d. \, x \text{ is d good } ∧ ∀y. \, y∈C \text{ and } y≠x -> y \text{ is not d good.}$
presupposition: (i) $x∈C$; (ii) $∀y [y∈C→∃d[D(d)(y)]]$

Semantics of RIN (Pancheva and Tomaszewicz 2012)
(7) $[U2_1 [[_{DegP} \text{EST-C}]_2 [2.d [~S [1.e [Ivan has } t_{DegP} \text{ good albums } t_{U2}]]]]]]$

i. Focus association requires the contextual variable C to be the union of the set of alternatives generated by the focus operator. Since the alternatives generated are properties (8a), the union of S is the set of individuals that have the property (8b).
(8) a.$S ⊆ \{P: ∃d.[P=λx.\text{John has d-good albums by x}]\}$
     b.$C = ∪S = \{x: ∃d.[\text{John has d-good albums by x}]\}$

ii. The presupposition of -est requires C to be a subset of the set of arguments of the degree predicate D. The individual argument of -est in (7), U2, is an element of C, and all elements of C are arguments of the second argument of –est.
(9) a. Every member of C is an argument of D:
         $∀y [y∈C → ∃d [\text{John has d-good albums by y}]]$
     b. $C = \{x: ∃d [\text{John has d-good albums by x.}]\}$
(10) a.   [John bought DegP expensive photos of Abby]
        $[\text{Abby}_1$ $[1.e [\text{John bought DegP expensive photos } t_1]]]]$
        $[\text{Abby}_1 [\text{DegP}_2 [2.d [1.e [\text{John bought } t_2 \text{ expensive photos } t_1]]]]]]$

Requirements from semantics to syntax:
(i)   Both the Focus and the DegP move.
(ii) The scope relation of the landing sites: Focus >> DegP.
(iii) The movement of Focus precedes that of DegP.

4. Derivation

Upshot: the distribution of RIN is directly related to whether the semantic requirements can be met in the LF structures that Syntax can provide. The possible LF structures are restricted by locality constraints.

Locality Constraints
I.   NP/DP Parameter (Bošković 2005)
II. Dynamic Approaches to Phases (Wurmbrand t.a.)
III. Phase Impenetrability Condition (Chomsky 2000)
IV. Anti-locality (Abels 2003)
V.   Shortest (Bruening 2001, Richards 1997)

Deriving Generalization 1 in Polish type languages.
Pt.1 Complement - The extraction of focus is impossible.
I   ➔ NP is the highest nominal projection in Polish.
II ➔ NP is a phase in Polish.
III ➔ Movement out of NP needs to go through the edge.
IV ➔ The movement is too short. ☞*(i)

(6) * Jakiego kierunku Jan spotkal studentow?
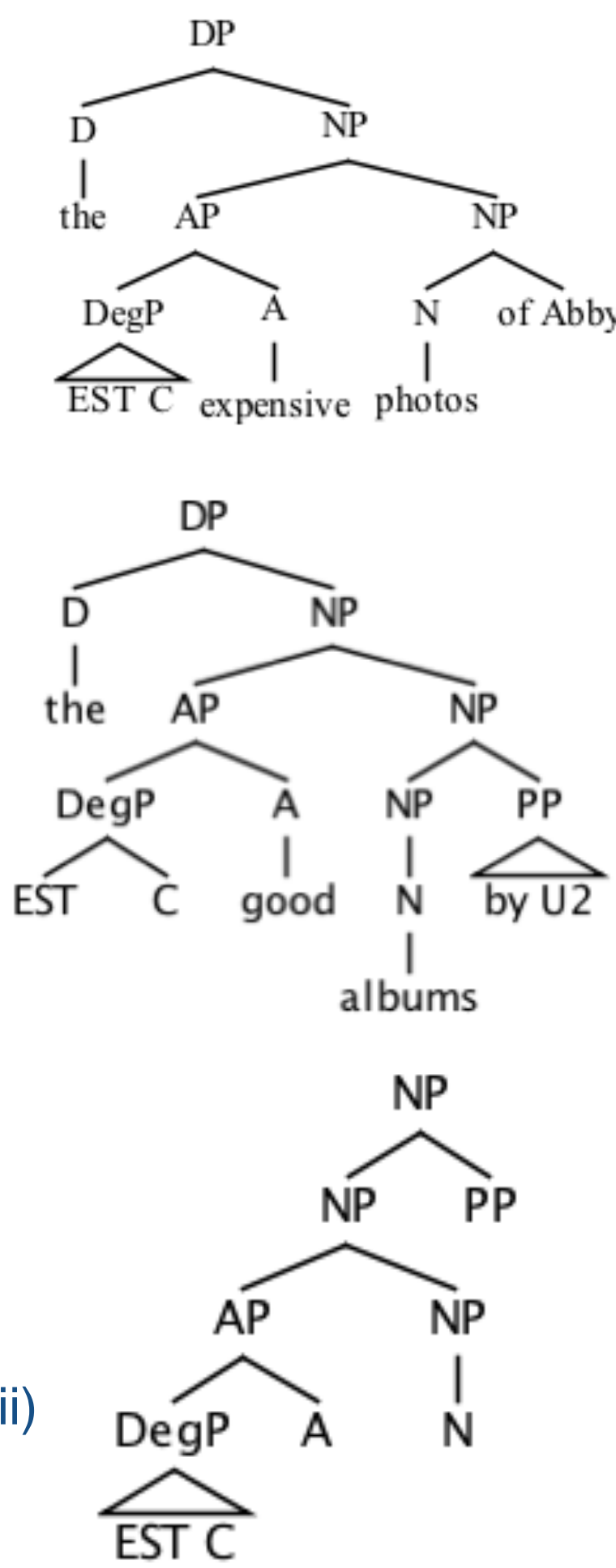   Which   major   John meet   students?
      'Of which major did John meet students?'

Pt.2 Adjunct
a. Focus = adjunct to NP;
b. Both DegP and focus are generated at the edge; √ (i)
c. PP is higher than DegP thus can move first. √(ii) and (iii)

Deriving Generalization 2 in English type languages
Pt. 1 Adjunct - The extraction of the adjunct of NP is impossible.
I   ➔ DP is the highest projection.
II ➔ DP is the phase.
III ➔ movements out of DP must go through the edge of DP.
IV ➔ movement of NP adjunct to the edge of DP is too short. ☞*(i)

Pt. 2 Complement with covert movement
a. Focus = complement to N.
b. DegP is higher than the complement.
c. DegP must move first. ☞*(iii)
d. DegP must take scope over the focus. ☞*(ii)

Pt. 3 Complement with overt movement
a. Focus = complement to N.
b. movements of the complement violate no locality constraint √(i)
c. DegP is higher than the complement.
d. Overt movement precedes covert movement √(iii)
d. Focus can take scope over the DegP √(ii)

Deriving Generalization 2 in Mandarin Chinese
Pt. 1 No movement (Canonical and Wh-questions)
a. Modifiers to NP are prenominal in Mandarin Chinese.
b. Left Branch Extraction is impossible. ☞*(i)
c. No movement analysis of wh in-situ. (Reinhart 1998, a.o.)

Pt. 2 Overt movement (Clefts, relative clause)
a. Some informants accept clefts and relative clauses involving LBE.
b. These informants accept RIN in such constructions.

5. Future Extensions

Obligatory Focus Association
(7) #? Von Abby hat John das teuerste   Photo gekauft. (German)
       Of Abby has John the most.expensive photo bought.
    'As for Abby, John bought the most expensive photo of her.'

Comparison Class to the Rescue
(8) √ Among all the journals he subscribes to, John has the most issues of LI.
    'John's issues of LI is greater than his issues of other journals that he subscribes to.'

Optional RIN in Bulgarian
(Pancheva & Tomaszewicz 2012, Dubinsky and Tasseva-Kurktchieva 2014)
(9) a. Ivan ima naj-dobri-te   albumi na/ot U2.   (Bulgarian)
         Ivan has EST-good-the albums of/by U2.
         RIN*: 'Ivan has better albums by U2 than by any other band.'
    b. Ivan ima naj-dobri albumi na/ot U2.
         Ivan has EST-good albums of/by U2.
         RIN √: 'Ivan has better albums by U2 than by any other band.'

Acquisition of RIN (Tieu & Shen 2014 - CLS 50, April 10-12th, 2014.)

6. Conclusions

1. Relative reading with NP internal focus distributes across languages and constructions.
2. Semantics of RIN imposes specific requirements on the LFs that are generated by Syntax observing locality constraints.
3. Standard locality constraints that are independently motivated can account for the availability of RIN.

References

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