An adjunction theory of extraction from coordinate structures

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(Joint work with Daniel Altshuler, Hampshire College)
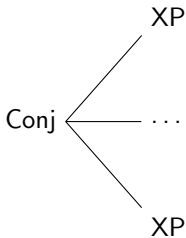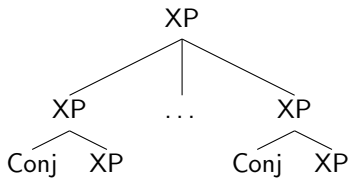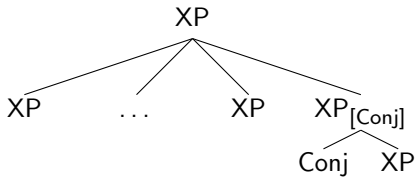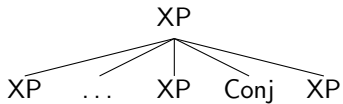
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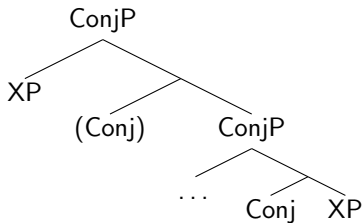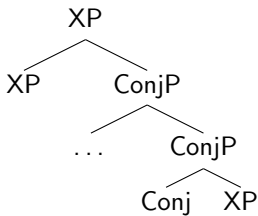
Hypothesis: Alan Munn was right
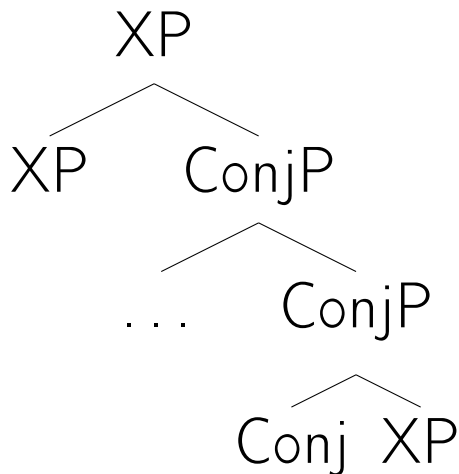
Extraction from coordinate structures

- ▶ We will explore the 'Munn was right' hypothesis with respect to patterns of extraction from coordinate structures. Famously:

Coordinate Structure Constraint (Ross 1967)

In a coordinate structure, no conjunct may be moved, nor may any element contained in a conjunct be moved out of that conjunct.

Across-the-board exception (also Ross 1967)

The CSC exceptionally doesn't apply if a moved element is associated with a trace in every conjunct.

(1)   a.   *The lute [which Henry [[plays __] and [sings madrigals]]] is warped.
      b.   *The madrigals [which Henry [[plays the lute] and [sings __]]] sound lousy.
      c.   The madrigals [which Henry [[writes __] and [sings __]]] are lousy.

There are other exceptions

1. **True A′-extraction** from either conjunct:

   (2) Here's the whiskey which I [[went to the store] and [bought __]].
   (Ross 1967)

   (3) How many counterexamples can the Coordinate Structure Constraint [[sustain __] and [still be considered empirically correct]]?
   (Goldsmith 1985)

2. **SLF-coordination** (extraction from first conjunct only):

   (4) Das Gepäck ließ er fallen und rannte zum Hinterausgang.
   (Höhle 1983)

3. **Initial conjunct extraction**:

   (5) ?Knjige je Marko [__ i   filmove] kupio
       books is Marko   and movies   bought
       'Marko bought books and movies.'
   (Oda 2017)

General prediction

▶ Extraction from initial conjuncts should be available to the same extent as extraction past an adjunct.

▶ Extraction from noninitial conjuncts should be available to the same extent as extraction from an adjunct.

Roadmap

1. Background: Asymmetric extraction from coordinate structures
2. Background: Extraction from adjuncts
3. Interpretive matters
4. What about ATB-extraction?

Section 1

Background: Asymmetric extraction from coordinate structures

Lakoff's three scenarios

▶ Lakoff (1986) described three discourse-structural 'scenarios', each of which comes with its own characteristic pattern of asymmetric extraction.

  ▶ Type A ≈ NARRATION: all conjuncts other than backgrounded 'preparatory processes', normally including final conjunct.

    (6)   What did he [[go to the store], [buy __], [load __ in his car], [drive home], and [unload __]]?

  ▶ Type B ≈ VIOLATED EXPECTATION: initial conjunct only.

    (7)   How much can you [[drink __] and [still stay sober]]?

  ▶ Type C ≈ CAUSE–EFFECT: initial conjunct only.

    (8)   That's the stuff that the guys in the Caucasus [[drink __] and [live to be a hundred]].

▶ Deane (1991): link to 'attention'; Kehler (2002): more worked-out theory of coherence relations and topicality (≈ 'attention').

Postal (1998): Noninitial conjuncts are weak islands

▶ Phrases asymmetrically extracted from noninitial conjuncts must be NPs (roughly — see Levine 2001).

    (9)   *How accurately did the witness [[go to court] and [give evidence __]]?

▶ They must also be referential.

    (10)   a.   What color did she (*fly to Vancouver and) dye her hair __?

            b.   How much thought did they (*get drunk, drive home, and) give those proposals __?   (Postal 1998: 67)

▶ These are hallmarks of weak islands (Cinque 1990) — Postal's 'selective islands'.

Postal (1998): Initial conjuncts are not islands

▶ Extraction does not have to be of NP, and does not have to be referential.

(11)   a.   What color did she (*fly to Vancouver and) dye her hair
          __ ?   (Postal 1998: 67)
       b.   How accurately can a witness [[give evidence __] and [still seem unreliable]]?

(12)   How often do the guys in the Caucasus [[eat that stuff __] and [live to be 100]]?

▶ A twist (for later): ATB-extraction behaves like extraction from initial conjuncts: the weak islandhood of the noninitial conjunct disappears.

(13)   a.   How sick did John [[look __] and [say he actually felt
          __]]?   (Postal 1993: 736)
       b.   The color that they [[chose __ yesterday] and [will paint their barn __ tomorrow]] is red.   (Postal 1993: 744)

Interim summary and looking forward

- ▶ Lakoff correlated discourse structures with extraction patterns.
- ▶ Postal added a syntactic restriction:
  - ▶ Initial conjuncts (Type B, Type C) are not islands;
  - ▶ Noninitial conjuncts (Type A) are weak islands;
  - ▶ ATB-extraction does not show weak island effects.
- ▶ Nothing much to say about SLF-coordination and initial conjunct extraction yet, except that they also involve asymmetric extraction from/of initial conjuncts and this is no accident.
- ▶ Next:
  - ▶ Munn (1993), when he was being right, claimed that noninitial conjuncts are adjuncts.
  - ▶ Postal's generalizations follow from Munn's structure, if adjuncts are weak islands.

Section 2

Background: Extraction from adjuncts

The standard picture

- ▶ Cattell (1976), Huang (1982), Uriagereka (1999): complements are unique in allowing extraction.

- ▶ Subjects and adjuncts are strong islands: nothing can extract from them.

  (14)   This is the book which I enjoyed [reading __]

  (15)   *This is the book which [reading __] really helped me.

  (16)   *Who did you smile [after I talked to __]?

- ▶ Reasons why vary with the times: something about government (Huang), something about Spell-out (Uriagereka).

Truswell's (2007, 2011) two claims

1. Adjuncts are weak islands: they allow extraction of referential NPs only (see also Postal 1998).

   (17) a. *How much money did John drive Mary crazy [spending __]?
         b. *What colour did John drive Mary crazy [painting the door __]?

   (18) a. *How much money did you decorate your room [without spending __]?
         b. *What colour did you redecorate your house [without painting your room __]?

2. Extraction from adjuncts obeys the Single Event Condition: the events described by the matrix VP and the adjunct must jointly compose a single event description.

   (19) a. What did John drive Mary crazy [whistling __]?
         b. What did John arrive [whistling __]?
         c. *What does John work [whistling __]?

Crosslinguistic variation in extraction from adjuncts

- ▶ Postal (1998), Truswell (2008): in many languages, adjuncts really are strong islands.

  (20) *le directeur qu' elle y est allée en avion [pour
        the director that she there is gone in plane for
        confronter __]
        confront.INF
        'the director that she flew there to confront'   (Postal 1998: 76)

  (21) Hvað kom Jón [flautandi __]
        what came John whistling
        'What did John arrive whistling?'   (Truswell 2008: 154)

- ▶ Adjuncts are strong islands in: most of Romance, Dutch, German, . . .

- ▶ Adjuncts are weak islands in: English, North Germanic, ?Spanish, . . .

Noninitial conjuncts are strong islands when adjuncts are strong islands

(22) a. *Was wirst du [[zum Laden gehen] und [__ kaufen]]?
     b. *Was bist du hierher gekommen, [um darüber zu sprechen]?

(23) a. Vad [[gick du till affären]   och [köpte __]]?
        what went you to shop.DEF and bought
        'What did you go to the store and buy?'
     b. Vilken sång kom han in i rummet   [visslande på
        which song came he in in room.DEF whistling on
        __]?

        'Which song did he come into the room whistling?'

Initial conjuncts are not islands even when noninitial conjuncts are strong islands

(24) Wie viel kannst du [[__ trinken] und [trotzdem noch nüchtern bleiben]]?

So

- ▶ Munn's analysis of coordination + Postal/Truswell on adjuncts instantly explains Postal's generalization that noninitial conjuncts are weak islands.
- ▶ It makes the right predictions about which languages show Lakoff's Type A extraction pattern.
- ▶ It correctly suggests that Types B and C (extraction from initial conjuncts) should not be subject to the same crosslinguistic variation.

Section 3

Interpretive matters

Lakoff doesn't fit with Postal

- The set of essentially phrase-structural generalizations in the last section don't fit nicely with Lakoff's discourse-structural generalizations.
- We claim that Lakoff's generalizations are ultimately illusory:
  - Type A (NARRATION) and Type C (CAUSE–EFFECT) are very similar relations, and the different extraction patterns Lakoff sees are for reasons orthogonal to the coherence relation holding between the conjuncts.
  - Type B examples use the VIOLATED EXPECTATION relation to establish a 'threshold' on when the proposition expressed in the first conjunct holds, and their particular locality behaviour follows from this 'threshold' effect.

RESULT ⊂ NARRATION

(25)   a.   That's the stuff that the guys in the Caucasus [[drink __] and (then) [live to be a hundred]].

          b.   Which dish do people always [[order __ here] and (then) [get sick]]?

▶ RESULT ($P \rightsquigarrow Q$) entails NARRATION (P then Q). So the examples in (25) could also be construed as NARRATION (Type A).

▶ And as Type A scenarios, they should allow gaps in the final conjunct as an alternative.

▶ Conclusion: Lakoff's Type C is just a device for marking a special case of Type A where the final conjunct doesn't contain a gap.

▶ Further conclusion: Type A/C doesn't show any particularly distinctive extraction pattern.

VIOLATED EXPECTATION ⊂ RESULT

► VIOLATED EXPECTATIONs are special cases of RESULT where normally $\neg(P \rightsquigarrow Q)$ ($\approx$ Kehler).

  (26)   John clapped his hands three times. It started raining in Barcelona.   (Schlöder, via Altshuler, p.c.)

► We infer RESULT (as a default), but this is not how rain works, so this matches the definition of VIOLATED EXPECTATION.

► Likely conclusion: VIOLATED EXPECTION is not a distinct relation.

► However, Type B scenarios (exemplifying VIOLATED EXPECTATION) are *syntactically* uniform, and distinctive.

The uniformity of Type B

(27)   a.   How much can you [[drink __] and [still stay sober]]?
         b.   How many lakes can we [[destroy __] and [not arouse public antipathy]]?
         c.   How many counterexamples can the CSC [[sustain __] and [still be considered empirically correct]]?

- ▶ This is not an accident:

(28)   #What/How much did you [[drink __] and [still stay sober]]?

- ▶ But (28) still exemplifies VIOLATED EXPECTATION.
- ▶ This is a hint that VIOLATED EXPECTATION itself is not responsible for this extraction pattern.

The second conjunct specifies a threshold

- ▶ (29b) explicitly specifies a threshold ... *and* $\neg(P)$ which is left open (but still required) in (29a).
- ▶ The threshold is such that, the more you drink, the greater the probability of P.
- ▶ (29a) asks what is the maximum volume v such that if you drink v of the relevant liquid, $p(P) \leq \mu$, for some criterial value μ. (29b) does the same, but explicitly specifies P

  (29)   a.   How much can you drink?
         b.   How much can you drink and still stay sober?

- ▶ In contrast, (30) just asks what is the volume v such that you drank v of the relevant liquid.

  (30)   How much did you drink?

- ▶ Compare Szabolcsi & Zwarts (1993) on negative islands:

  (31)   #How much can't you drink?

Conclusion re Lakoff

- Lakoff's correlations between scenario type and extraction pattern are at least approximately real: the extraction patterns associated with a given discourse structure are not random.

- But the correlations are indirect: the extraction patterns are not caused by NARRATION, VIOLATED EXPECTATION, CAUSE–EFFECT, etc.

- They are more likely caused by a conspiracy of:
  - Semantic constraints on questioning;
  - Information-structural effects, reflected in discourse structure (Daniel's territory).

- All of this interacts with, but is strictly orthogonal to, the purely syntactic constraints on extraction from coordinate structures described above.

Excursus: SLF-constructions and other 'odd coordinations'

- ▶ Most of the famous SLF-examples are interpreted as narrations.

  (32) In den Wald ging der Jäger und fing einen Hasen.

- ▶ But this is probably not a necessary requirement on SLF-constructions, and related constructions.

  (33) Äpfel ißt der Hans [[drei __] und [zwei Bananen]]

  (34) Morgen werde ich meine besten Freunde bekochen und bereite deswegen heute schon mal ein paar Sachen vor.

  (35) Leider [[können viele Kinder nicht lesen] oder [haben Probleme mit dem Gewicht]]

- ▶ Again it seems that any interpretive constraints on asymmetric extraction as instantiated in SLF-constructions shouldn't be stated in terms of discourse relations.

- ▶ The same is true of initial conjunct extraction (details omitted).

Section 4

What about ATB-extraction?

The puzzle in four steps

1. Noninitial conjuncts are weak islands (in those languages where adjuncts are weak islands).
2. Initial conjuncts are not islands.
3. 'More movement' doesn't normally make things better.
4. ATB-movement does not behave like extraction from weak islands.

(36) a. How sick did John [[look __] and [say he actually felt __]]?
                                              (Postal 1993: 736)
      b. The color that they [[chose __ yesterday] and [will paint their barn __ tomorrow]] is red.   (Postal 1993: 744)

A related puzzle

- ▶ If noninitial conjuncts are adjuncts, ATB-movement looks like a parasitic gap construction (Munn 1993).
- ▶ But ATB-movement is less restricted than parasitic gap constructions (Postal 1993): Parasitic gaps display similar restrictions to extraction from adjunct islands.

    (37) a. *How sick did John look __ without actually feeling __?
         b. *What color did they criticize __ after painting their house __?

- ▶ We can at least hope that accounts of why ATB-movement is less restricted than parasitic gaps, will also explain why ATB-movement is less restricted than extraction from noninitial conjuncts.

Two approaches

▶ Two main minimalist accounts of the ATB vs. p.g. difference:
   1. Sideward movement (Hornstein & Nunes 2002);
   2. Multidominance (Citko 2005).

▶ Either works, either adaptable for our purposes. I'll use Citko's.

▶ Key point: ATB-structures are not p.g. structures because they only contain a single gap.

   (38) Zhangsan xihuan shenme ren   Lisi taoyan shenme ren?
         Zhangsan like   which person Lisi hate which person
         'Which person does Zhangsan like and which person does Lisi hate?'

   (39) Shenme ren   Zhangsan xihuan Lisi taoyan?
         which person Zhangsan like   Lisi hate
         'Which person does Zhangsan like and Lisi hate?'

A multidominance tree
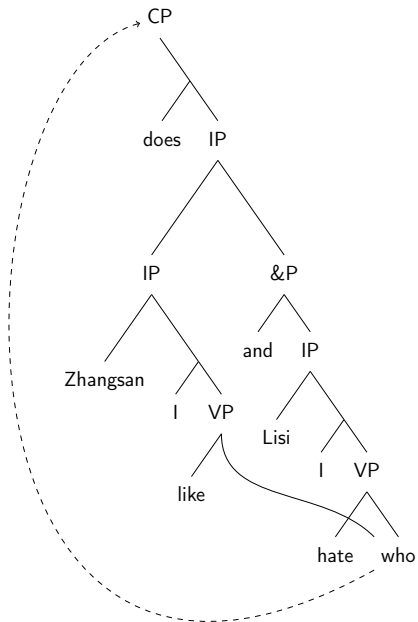
Weak islands and multidominance

- An instance of movement counts as island-free iff:
  - For every node at the foot of the dependency, there is a path (in something like the Pesetsky 1982 sense) to the head of the dependency, and none of those paths cross weak or strong island boundaries.
- An instance of movement counts as extraction from a weak island iff:
  - For every node at the foot of the dependency, there is a path to the head, and none of those paths cross strong island boundaries.
  - The movement is not island-free.
- An instance of movement counts as extracton from a strong island iff:
  - The movement is not island-free or extraction from a weak island.

One good path
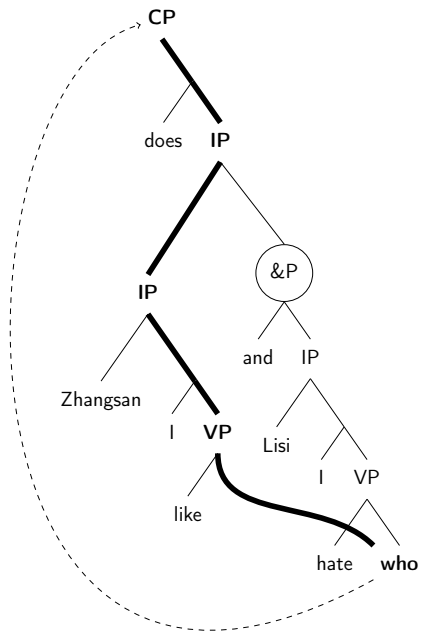
Section 5

Conclusion

Ingredients

1. Munn's syntax for coordinate structures;
2. Postal's observations about coordination and selective islandhood;
3. Truswell's description of adjuncts as weak islands;
4. Citko's theory of ATB-movement

Advances

1. A generalization over several patterns of asymmetric extraction from coordination;
   1.1 Regular A′-extraction
   1.2 SLF-structures
   1.3 First conjunct extraction
   1.4 (Some) crosslinguistic variation
2. Reduced role for the project of correlating coherence relations with patterns of gap sites;
3. New understanding of the relationship between ATB-movement and asymmetric extraction.

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