

Lecture 11: Formalizing Extraction Islands

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Topicalization and Scrambling (i): Dalrymple ch. 14, §1

English:

I. TOPIC phrase can be NP, PP, AP, CP, or VP:

1. Chris, I like.
2. To Chris, I gave the book.
3. Happy, Chris will never be.
4. That Chris would win, I never would have guessed.
5. ?To leave, we convinced Chris.

Extended Coherence Condition:

FOC and TOP must be linked to the semantic predicate argument structure of the sentence in which they occur, either by functionally or by anaphorically binding an argument.

II. Within-clause function path linked to TOPIC: OBJ, COMP, (COMP OBJ), etc.

Some constraints:

1. Complements of certain verbs like *whisper* ('non-bridge verbs') are islands:

*Chris, we whispered [that David saw ____].

2. Subjects are islands.

*Chris, [that David saw ____] surprised me.

3. Some adjuncts, such as **tensed** modifiers of sentences, are islands.

*Chris, we think that David laughed [when we **selected** ___].

?Who did you go to NY [after talking to ___]?

This room, Julius teaches his class [in ___].

Capturing the constraints.

$$\begin{aligned} & \text{IP} \longrightarrow \text{XP} \quad \text{IP} \\ & (\uparrow \text{TOPIC}) = \downarrow \quad \uparrow = \downarrow \\ & (\uparrow \text{TOPIC}) = (\uparrow \text{TopicPath}) \end{aligned}$$

where $\text{XP} \in \{ \text{NP}, \text{PP}, \text{AP}, \text{CP}, \text{VP} \}$

Where **TopicPath** is a string of attributes observing certain constraints.

Some useful background:

1. **XCOMP** is the ‘open complement’ function, for predicate complements such as non-finite VPs, and predicative APs, NPs, and PPs.

He tends to enjoy parties. ‘tend <(XCOMP)>’(SUBJ)

I expect Mary to arrive soon.

‘expect <(SUBJ) (XCOMP)>’(OBJ)

Sue seems angry. ‘seem <(XCOMP)>’ (SUBJ)

2. Set values. Certain items such as adjuncts and conjuncts allow multiple instances without violating Functional Uniqueness. This is modeled with sets values. In f-descriptions the element symbol \in can be used two ways: (i) as an attribute in equations (unlike other attributes, it is not subject to Uniqueness); (ii) as a connective between f-structures.

a big, red ball $f \left[\begin{array}{l} \text{PRED 'ball'} \\ \text{ADJ } \left[\left\{ g[\text{'big'}], h[\text{'red'}] \right\} \right] \end{array} \right]$

\in as attribute:

$(f \text{ ADJ } \in) = g$

$(f \text{ ADJ } \in) = h$

\in as connective:

$g \in (f \text{ ADJ})$

$h \in (f \text{ ADJ})$

Flo and Eddie

[NUM PL
{g['Flo'], h['Eddie']}]

[as attribute:

$(f \in) = g \quad g \in f$

$(f \in) = h \quad h \in f$

[as connective:

3. Off-path constraints:

In an expression like α , \rightarrow refers to the value of α .
($\rightarrow s$)

4. GF = { SUBJ | OBJ | OBJ _{θ} | OBL | COMP | XCOMP |
ADJ | XADJ }

5. *whisper*: (\uparrow PRED) = 'whisper <(SUBJ) (COMP)>'
(\uparrow COMP LDD) = –

LDD ('Long Distance Dependency') feature to encode islands.

English TopicPath:

$\{XCOMP \mid COMP \mid OBJ\}^* \{ (ADJ \in) (GF) \mid GF \}$
 $(\rightarrow LDD) \neq - \quad \neg(\rightarrow TENSE)$

Examples of allowable **TopicPath**:

OBJ Sue, I like ___.

COMP SUBJ Sue, he said ___ likes you.

XCOMP OBJ Sue, he expects to like ___.

ADJ \in In this room, Julius teaches his class ___.

ADJ \in OBJ This room, Julius teaches his class [in ___].

TopicPaths violating off-path constraints:

PRED	'whisper <(SUBJ) (COMP)>'								
SUBJ	['we']								
COMP	[<table border="1"> <tr> <td>PRED</td> <td>'see <(SUBJ) (OBJ)>'</td> </tr> <tr> <td>SUBJ</td> <td>['David']</td> </tr> <tr> <td>OBJ</td> <td>(linked to TOPIC)</td> </tr> <tr> <td>LDD</td> <td>—</td> </tr> </table>	PRED	'see <(SUBJ) (OBJ)>'	SUBJ	['David']	OBJ	(linked to TOPIC)	LDD	—
	PRED	'see <(SUBJ) (OBJ)>'							
	SUBJ	['David']							
OBJ	(linked to TOPIC)								
LDD	—								
TOPIC	[]								

*Chris, we whispered [that David saw ___].

$\{XCOMP \mid \text{COMP} \mid OBJ\}^* \{(\text{ADJ} \in) (GF) \mid GF\}$
 $(\rightarrow \text{LDD}) \neq - \quad \neg(\rightarrow \text{TENSE})$

TopicPath can contain COMP only if (its value)

lacks [LDD -]

PRED `think <(SUBJ) (COMP)>'

SUBJ ['we']

COMP [PRED `laugh <(SUBJ)>'

SUBJ ['David']

ADJ { ['when we selected']
[TENSE PAST] }

*Chris, we think David laughed [when we selected ____].

$IP \rightarrow XP$ IP
 $(\uparrow TOPIC) = \downarrow$ $\uparrow = \downarrow$
 $(\uparrow TOPIC) = (\uparrow TopicPath)$

English TopicPath:

$\{XCOMP \mid COMP \mid OBJ\}^* \{ (ADJ \in) (GF) \mid GF \}$
 $(\rightarrow LDD) \neq -$ $\neg(\rightarrow TENSE)$

Let's play **Name that TopicPath**:

4. Sue, I think he said he likes ____.
5. Sue, he seems to like ____.
6. Sue, he fainted while talking to ____.

$IP \rightarrow XP$ IP
 $(\uparrow \text{TOPIC}) = \downarrow$ $\uparrow = \downarrow$
 $(\uparrow \text{TOPIC}) = (\uparrow \text{TopicPath})$

English TopicPath:

$\{\text{XCOMP} \mid \text{COMP} \mid \text{OBJ}\}^* \{(\text{ADJ} \in) (\text{GF}) \mid \text{GF}\}$
 $(\rightarrow \text{LDD}) \neq -$ $\neg(\rightarrow \text{TENSE})$

Let's play **Name that TopicPath**:

4. **COMP COMP OBJ** Sue, I think he said he likes ____.

5. **XCOMP OBJ** Sue, he seems to like ____.

6. Sue, he fainted while talking to ____.

Explain:

1. In the kitchen John said that he found the money.

Ambiguous: the saying or the finding took place in the kitchen

2. In the kitchen John whispered that he found the money.

Unambiguous: the saying (NOT the finding) took place in the kitchen