

#6 – Some Predictions of Combinatory Categorical Grammar

Claim of CCG: Residues of topicalization and relativization are constituents for conjunction

- Complex-NP islands

- (1) a. I know a man who bought, and Sue knows a man who sold antique baseball cards.
b. *What do you know a man who bought ___?
c. * These are the pictures that I know a man who bought ___?
d. *These pictures, I know a man who bought ___?

- Adjunct islands

- (2) a. I read the book because I wanted to help, and Bill read the book because he wanted to confuse the students.
b. *What did you read the book because you wanted to find ___?
c. * This is the picture that I read the book because I wanted to find ___?
d. *This picture, I read the book because I wanted to find ___?
- (3) a. ??John read the book after he cooked, and Mary read the book after she ate the steaming grilled cheese sandwich.
b. *What did you read the book after you ate ___?
c. * That was the sandwich that I read the book after I ate ___?
d. *That sandwich, I read the book after I ate ___?

- Wh-islands

- (4) a. I know who likes, and Sue knows who hates olives.
b. *What do you know who hates ___?
c. ??This is the fruit that I know who hates ___?
d. *These olives, I know who hates ___?

- Subject islands

- (5) a. ??Ken said that the suggestion that Bill met with, and Trent said that the suggestion that Bill even thought about the unsuspecting volunteer offended Hillary.
b. *Who did Ken say that the suggestion that Bill saw ___ offended Hillary?
c. * This is the volunteer who Ken said that the suggestion that Bill saw ___ offended Hillary.
d. * This volunteer, Ken said that the suggestion that Bill saw ___ offended Hillary.

- Preposition Stranding

	English	Irish etc.
leftward movement	yes	no
right node raising	yes	yes
heavy NP shift	no	?

- ‘Pseudoparasitic Gaps’ (all examples from Postal 1994)

‘Island Condition’ on p-gaps

- (6) a. a woman who your courting ____{pg} would probably upset __.
 b. *a woman who your hiring the man who lives with ____{pg} would upset __.
- (7) a. I would have asserted __ even without consulting with the first genius who proved [that 2 and 2 is 4].
 b. *[That 2 and 2 is 4], I could have asserted __ even without consulting with the first genius who proved ____{pg}.

Predicate Nominals and p-gaps

- (8) a. They turned into derelicts.
 b. [What kind of derelicts] did they turn into __?
 c. * [What kind of derelicts] did they analyze __ after their children turned into ____{pg}?
 d. *[What kind of derelicts] did they turn into __ after their children analyzed ____{pg}?
- (9) a. Slaves make good cannibal snacks.
 b. [What kind of cannibal snacks] did those slaves make __?
 c. * [What kind of cannibal snacks] did the cannibal look for __ after hearing that young slaves made ____{pg}?
 d. *[What kind of cannibal snacks] were all those slaves who discussed __ expected to make ____{pg}?
- (10) a. They only determined to analyze right after their children turned into [the sort of derelicts who cause such problems in our cities].
 b. They ended up turning into not long after their children analyzed [the sort of derelicts who cause such problems in our cities].
- (11) a. The cannibal only decided to consume after hearing that certain slaves made [just that sort of high protein cannibal snack].
 b. Those slaves ended up making even though it had been denied that they ever would make [just that sort of high protein cannibal snack].

Why the connection between movement and coordination is just a one-way implication:

- (i) any non-string vacuous movement operation can be restricted (to NPs, VPs etc.)
- (ii) as far as I can tell, nothing in the system ensures that the shared material in RNR be a constituent.

Separation of Binding/Control from Surface Structure

- A-movement can create anaphor binding configurations.

(12) Wallace seemed to himself __ to be getting hungry.

(13) a.*/??? apne_i baccon-ne mohan-ko_i ghar se nikaal diyaa.
 self_i's children (SUB) Mohan (DO) house from throw give-PERF
 ‘Self_i's children threw Mohan_i out of the house.’

- b. ? Mohan-ko_i apne_i bacconN-ne ghar se nikaal diyaa.
 Mohan (DO) self's children (SUB) house from throw give-PERF
 'Self_i's children threw Mohan_i out of the house.'

[Hindi: Mahajan 1990]

- Forced to assume that reflexives often treated as subjects of infinitival clauses are in fact co-arguments of the embedding predicate.

- (14) a. Wallace believes himself to be a fine inventor.
 b. Wallace wants himself to feel more confident.

- Verbs appearing in different syntactic frames show different binding possibilities in each.

- (15) a. The director showed the actors each other.
 b. *The director showed each other the actors.

- (16) a. The director showed the actors to each other.
 b. *The director showed each other to the actors.

This variability in binding, affecting apparently identical thematic roles, handled by creation of two lexical entries for each verb that undergoes dative shift.

- Wh-movement of phrases containing anaphors and r-expressions alters their status w.r.t. binding conditions.

- (17) a. Which pictures of himself does Mary think John saw ___?
 b. Which pictures of himself does John think Mary saw ___?

- (18) a. Which of the arguments that John made did he confabulate ___?
 b. *Which of the arguments that John should be arrested did he confabulate ___?

- Long-distance anaphora present no problem, provided that they must merely be bound at PAS rather than locally bound.

- The sensitivity of expressions like NPI *any* to surface syntactic relations is probably fairly easy to capture, given that the instances of non-licensed NPIs are also extractions from negative islands.

- (19) a. John didn't see anybody.
 b. *Anybody didn't see John.

- (20) a. * Anybody never saw such a spectacle.
 b. Never did anybody see such a spectacle.

- (21) a. Ez dio inork Iboni etxea eman. [Basque: Laka 1990]
 no has anybody Ibon house-the given
 'Nobody has given the house to Ibon.'
 (Literally: Anybody hasn't given the house to Ibon.)

- b. Ez da inor etorri.
no has anybody come
'Nobody came.'
(Literally: Anybody didn't come.)
- c. Ez dio Ibonek inori etxea eman.
no has Ibon anybody-to house-the given
'Ibon hasn't given the house to anybody.'

(22) * Inor etorri da
anybody come has

- Question: does fronting destroy NPI licensing contexts, or is fronting out of NPI licensing contexts impossible because it is extraction from a negative island?

- (23) a. Some of them, John had to deny that he painted.
b. *Any of them, John had to deny that he painted.
- (24) a. ?Mary wasn't sure whether any of them, John would deny that he painted.
b. *Mary was sure that any of them, John would deny that he painted.

- A correlation between coordination and binding possibilities?

NP-adverbial sequences

- (25) *Binding*
- a. Mrs. McGarrick sent **every child**_i a card on **his**_i birthday.
b. Professor Parker taught **no** classes in **any** asbestos ridden buildings.
c. Alec read **every thesis chapter**_i the day **it**_i arrived in his mailbox.
- (26) *Coordination*
- a. The Red Sox lost [in New York on Monday] and [in Cleveland on Tuesday through Thursday].
b. Mary used to teach [theology at Harvard] and [history at Yale].
c. Priscilla read [the journal articles quickly] and [the book chapters slowly].

NP-secondary predicate sequences

- (27) *Binding*
- a. Mrs. McGarrick sent **every child**_i a thank-you note [dressed in the sweater **he**_i had knitted for her retirement].
b. The urban-hygiene inspectors left **every city**_i [happy with **its**_i cleanup measures].
c. The chef served **every dish**_i to the guests [with **its**_i stains all over his apron].
d. Mrs. McGarrick gave **none** of the children a report card [happy with **anything** he had written].

- (28) *Coordination*
- Roberto sent packages [to Milan naked] and [to Pisa fully dressed].
 - Andrew wrote [to his mother happy with the outcome of the hearing] and [to his insurance company disgusted with their neglect].
 - Sue went [to school in a blind rage] and [to the pottery studio in good spirits].
 - Derek visited Paul [on Tuesday in his nightgown] and [on Thursday in his raincoat].

PP-adverbial sequences

- (29) *Binding*
- Mrs. McGarrick sent a card to **every child_i** on **his_i** birthday.
 - The urban-hygiene inspectors departed from **every city_i** during **its_i** rush hour.
 - The chef told the guests about **every dish_i** as **it_i** was served.
 - Mrs. McGarrick gave a card to **none** of the children on **any** of their birthdays.

- (30) *Coordination*
- Andrew wrote to [his mother when he was in LA] and [his aunt Sophie when he arrived in Bogota].
 - Sue went to [school in the morning] and [the pottery studio in the afternoon].
 - Kremer played concerts in [Rome on Tuesday] and [Somerville on Thursday].

PP-secondary predicate sequences

- (31) *Coordination*
- * Roberto sent packages to [Milan naked] and [Pisa fully dressed].
 - * Andrew wrote to [his mother happy with the outcome of the hearing] and [his insurance company disgusted with their neglect].
 - * Sue went to [the school in a blind rage] and [the pottery studio in good spirits].
 - * Derek visited Paul on [Tuesday in his nightgown] and [Thursday in his raincoat].
- (32) *Binding*
- ?? Mrs. McGarrick sent a thank-you note to **every child_i** dressed in the sweater **he_i** had knitted for her retirement.
 - ? The urban-hygiene inspectors departed from **every city_i** happy with **its_i** cleanup measures.
 - ? The chef told the guests about **every dish_i** with **its_i** stains all over his apron.
 - ?? Mrs. McGarrick gave a report card to **none** of the children happy about **anything** he had written.

Constraints on Elliptical Phenomena

- Not at all clear how contrast between VP-fronting and VP-ellipsis for anaphor binding could be captured in a theory in which anaphor binding is handled by a separate module of grammar; distinguishing VPE and VPF won't help, because of more minimal contrast shown in comparative ellipsis.

- (33) a. [give books to them] though he did on each other's birthdays.
 b. *John gave books to them on each other's birthdays, and Mary did on each other's first day of school.

- (34) a. Mary read all the books quickly. [coll/distr]
 b. Mary read all the books quickly, and Bill did slowly. [coll/*distr]

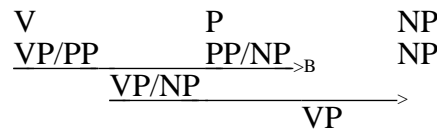
- (35) a. Mary read as many books as Bill did in a day. [coll/distr]
 b. Mary read as many books in a day as Bill did. [coll/distr]
 c. Mary read as many books in a day as Bill did in a weekend. [coll/*distr]

- Unclear how contrast between coordination and pseudogapping in treatment of V+P sequences could be captured

- (36) a. John talked to and gossiped about the kid who sprayed paint on his car.
 b. The cat looked at and then slept on the rug in the middle of the living room.

- (37) a. Helen talked to Jonathan, and Alice did ___ *(to) Matthew.
 b. The cat slept on the mat, and the dog did ___ *(on) the chair.

- (38) a. Helen talked to Jonathan more often than Alice did ___ *(to) Matthew.
 b. The cat slept on the mat more often than the dog did ___ *(on) the chair.



It should be easy to accommodate in CCG the binding facts under VP-fronting, and the possibility of V+P coordination; in order to approach coverage of the above facts, though, reference to constituents constructed in such derivations must be blocked.

Why is Coordination so liberal?

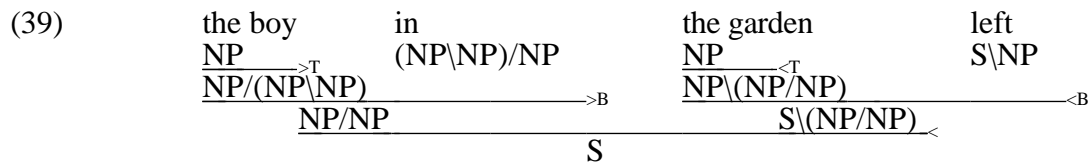
Incremental PSG: coordination is liberal because it applies to pairs of constituents that are immediately adjacent. Syntactic processes which apply to constituents separated by intervening material are more restricted, due to the fact that building new structure destroys existing constituents.

Comb. Cat. Gr.: coordination is liberal because type-raising, function composition (etc., etc.) allow categories to combine in a variety of manners.

What does this explain...?

- (a) Impossibility of coordinating in “The boy in [the park left] and [the garden stayed]”

IPSG: never a constituent
 CCG: unclear...



This derivation shouldn't be ruled out based on use of <B, must therefore be ruled out due to illicit type-raising of NPs

(b) Impossibility of fronting [a dog a bone] and similar argument clusters (in English), although they can be coordinated.

IPSG: impossible because sequence of NPs is a VP, containing null V-copy; consequently, when such strings are coordinated, they are coordinations of VPs.

$[_{VP} [_{NP} \text{ a dog}] [_{V} [_{NP} \text{ a bone}]]]$

CCG: restrictions on relativization and topicalization encoded in category labels of topics, relative pronouns etc.

topic:	$S_{TOPIC}/(S/NP)$
who:	$(N \setminus N)/(S \setminus NP)$
who(m):	$(N \setminus N)/(S/NP)$