

The Locality of Focusing and the Coherence of Anaphors
Edwin Williams
UCL September 2008

1. Pitch Motion -----> Focus -----> Answerhood, Contrast, ...
2. Focus has nonlocal properties: F-value = { x thinks that y saw w }
3. Focus values are derived the denotations of phrases

1. You can't accent X in [X Y] without d-accenting Y; and Y is then 3anaphoric

C-command:

3

- (1)
 - a. Anyone can **leave** [who wants to {}]
 - b. Anyone [who wants to {}] can **leave**
 - c. Anyone [who wants to **leave**] can {}
 - d. *Anyone can {} [who wants to **leave**] (Williams 1996)
- (2)
 - a. *You can {} [if you want to **leave**]
 - b. A: Can I **read my email during your lecture**?
 B: You can {} [if you want to (be asked to) leave]
- (3)
 - a. John **called** Mary **a Manichaeon**, and then SHE insulted HIM (Lakoff 1967)
 - b. *John **insulted** Mary because SHE had **called** HIM **a Manichaeon**
- (4)
 - a. He **called** her **a Manichaeon**, [because SHE had insulted HIM]
 - b. [Because he had **called** her **a Manichaeon**] SHE insulted HIM
 - c. [Because SHE had insulted HIM] he **called** her **a Manichaeon**
 - d. *SHE insulted HIM [because he had **called** her **a Manichaeon**]
- (5) We know why HE **insulted** HER; how we know that 4b.
- (6) Controlling context: Let me tell you about my friends John and Mary.
 - a. He once **called** her **a Manichaeon**, [simply because SHE had insulted HIM]
 - b. *SHE insulted HIM [**because he had called her a Manichaeon**]

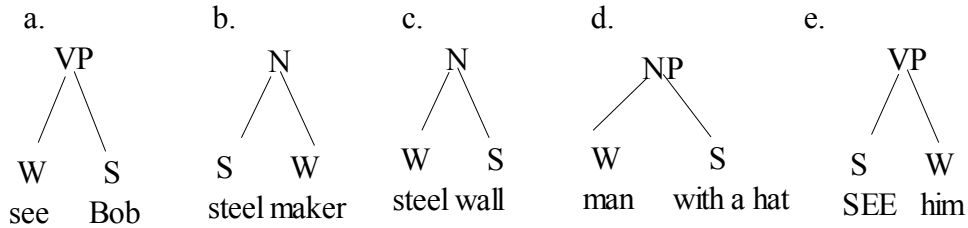
Identifying anaphors:

- (7)
 - a. Anyone who wants to leave can {}
 - b. Anyone who wants to {} can leave
 - c. *Can anyone who wants to leave {}
 - d. Can anyone who wants to {} leave
 - e. *[Can anyone who wants to LEAVE]_s leave_w
 - f. [Can anyone who wants to LEAVE]_s LEAVE_s
 - a. [Anyone who wants to LEAVE]_s [CAN {}]_s
 - c. *Can [anyone who wants to LEAVE]_s {}_w
 - g. the environment of identification of the anaphor cannot contain the antecedent of the

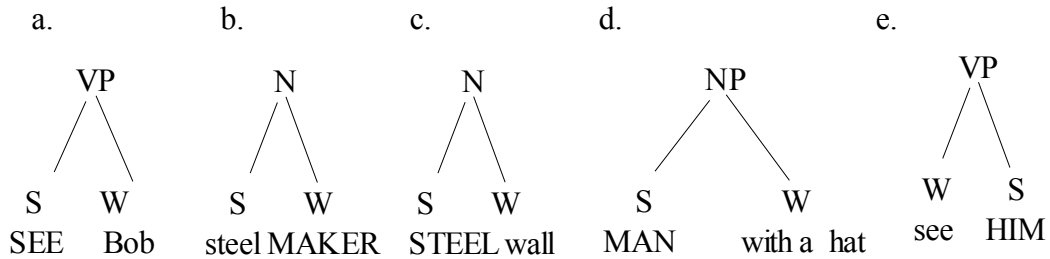
anaphor. (PAID)

2. Deviations from the Normal: the Disanaphora Law

(8) Normal:



(9) Special:



(10) *The Disanaphora Law*

In the Special pattern

- The weak is necessarily anaphoric
- The strong is disanaphoric
- The Normal pattern is for all other cases: W&S co-anaphoric; W anaphoric S not; neither W nor S anaphoric

(11) X is *disanaphoric* with Y where $F(X,Z)$, Z anaphoric to W, $F(Y,W)$ and $X \neq Y$

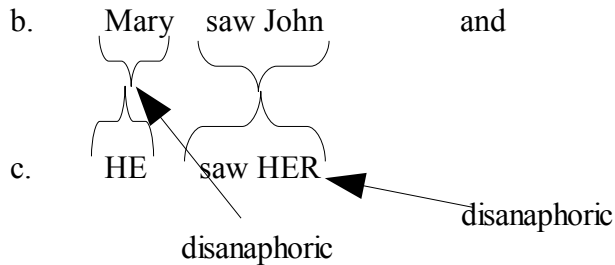
(12) $[\text{saw HER}]_{\text{special}}$: object-of(saw, HER) --->
saw has antecedent, and object-of (antecedent (*saw*) \neq antecedent (object-of (*saw*)))

Sentence-level focus is derivative

(13) John ate the good mussels before [he [ate [the [BAD ones]_{Special}]_{Normal}]_{Normal}]_{Normal}

(14) x in [x y] is *coanaphoric* means x is anaphoric to w in [w z] where y is (partially) anaphoric to z

- (15) Multiple focuses do not require a sentence-level focus value:
- a. in $[[P]_{\alpha} [P]_{\beta}]$ α will necessarily be disanaphoric (P = Pitch Motion)



- (16) a. She arrived, and HE LEFT
 b. [She [0 arrived]] and [HE [0 LEFT]], 0 = subject-predicate binder
 HE≠she, [0 arrived] ≠ [0 LEFT]; 0=0; arrived≠LEFT

Relativity of the Normal

- (17) Rhythm Rule
 a. [Fifth AVENUE] (normal)
 b. [FIFTH avenue] address] (normal)
 c. [Fifth AVENUE] address (special)
- (18) levels of normality:
 compound, nuclear stress
 rhythm rule
 destressing anaphora

2.1. Disanaphora and Answerhood (contrast + informational focus)

- (19) Rooth 1992: "In a question-answer pair α, β $[[\beta]]$ is in $[[\alpha]]^F$ "
- (20) A: What did George buy?
 a. B: George bought some blue SHOES
 b. B: *George bought some BLUE shoes
- (21) A: There were red shoes and blue shoes.
 B: What did George buy?
 a. *C: George bought the blue SHOES
 b. C: George bought the BLUE shoes
- (22) a. George bought the [blue SHOES]_{answer} (normal, wrt to answerhood)
 b. George bought the [BLUE shoes]_{answer} (special wrt to answerhood)
- (23) a. The answer need not have Nuclear accent, but it must contain the principal Pitch Motion.
 b. Topics work the same
 c. [...PM..]_{Topic} [...PM...]_{comment}

- (24) [BIOLOGY]_{Topic} I never studied; [MICRO-biology]_{Topic} I barely passed;
and [MOLECULAR biology]_{Topic} I flunked
- (25) levels of nomality:
compound, nuclear stress
rhythm rule
informational focus (answers to questions)
topic focus
destraining anaphora
- (26) Standard view: Pitch Motion -----> Focus -----> {Answerhood, Contrast, Topichood, etc.,}
(projection) (further laws)
- Instead:
- Disanaphora law maps Pitch Motion to Anaphoric/Disanaphoric requirements
 - Answers must contain Pitch Motion (that follows from DOAP, see below)
 - Topics must contain Pitch Motion (might not be true; might simply be trivially true of topics that form their own intonation unit)

2.2. Disanaphora and Focusing adverbs (contrast + focussing adverbs)

- (27) Rooth 1992: "If C is the domain of a focussing adverb with argument α , then C is in $[\alpha]^F$ "
- I only promised Mary a SMALL sum, and
 - I only promised PETE a small sum, as well.
 - *I only promised Pete a SMALL sum as well (Williams (1996))
 - It was Pete that I only promised a small sum too.
 - DOAP:

$$[I \text{ [only [promised [PETE a small sum]_S]_N]_N]_N$$

◇ coanaphoric
□ anaphoric
 - The interpretation of *only* is fixed by the antecedent
 - John treats male cats, but Bill ONLY treats male cats
 - *John treats male cats, but Bill only treats male CATS
 - John treats all dogs and male cats, but Bill only treats FEMALE cats.
 - 1) treats X 2) treats X cats 3) X cats.
 - I will tell you what George is like--he would only collect DEFECTIVE stamps.
 - If he were to collect stamps, he would only collect DEFECTIVE stamps.

2.3 The Coherence of anaphors and the granularity of constrast (contrast + constrast)

- (28) In (a), Anaphor1 and Anaphor2 must cohere; but not in (b)
- [Focus [Anaphor1, Anaphor2]]
 - [Anaphor1[Focus Anaphor2]]
- (29) A: Bill talked to Sue, and he spent money.
B: *Yes, and later he GAVE money to Sue

- (30) Ik geloof dat [alleen DIT boek]_{Strong} [Jan Marie t gegeven heeft]_{Weak}
 I believe that only this book John Mary given has
 'I believe that John has given only this book to Mary.'
 from Neeleman and Titov (ms) p. 5

(31) No such law as "if X is not focussed it is given"

(32) John really likes carded¹ leather. But(/and so) when it came to buying shoes,

- a. he [bought [CROPPED leather]_N shoes]_{NP}]_{VP}
- b. he [bought [[carded CANVAS]_N shoes]_{NP}]_{VP}
- c. he [bought [[CROPPED CANVAS]_N shoes]_{NP}]_{VP}
- d. he [bought [carded LEATHER]_N shoes]_{NP}]_{VP}

Antecedent1 = [carded leather]_N

Antecedent2 = [buy [0 shoes]_{NP}]_{VP}

- a: N≈A1: cropped ≠ carded; leather = leather
 VP≈A2: cropped leather shoes ≠ [0 shoes], buy=buy
 cropped leather ≠0, shoes = shoes
- b: N≈A1: fully nonanaphoric
 VP≈A2: bought = bought, [carded CANVAS shoes] ≠ [0 shoes]
- c: N≈A1: canvas ≠ carded, canvas≠leather
 VP≈A2: bought=bought; CROPPED CANVAS shoes ≠ [0 shoes]
- d: N≈A1: fully anaphoric
 VP≈A2: buy=buy; carded leather shoes ≠ 0 shoes
 [not part of VP≈A2: carded leather ≠ 0; shoes=shoes]

- (33) a. "If a phrase is construed as in contrast with a phrase then [[β] is in [α]^F" Rooth 1992
 b. [[he [bought [CROPPED leather]_N shoes]_{NP}]_{VP}]^F = {he bought x leather shoes}
 c. [[CROPPED leather]_N]^F = {x leather }

Symmetric Contrast

- (34) A: What is the most interesting thing that happened at the World's Fair?
 B: a. An AMERICAN farmer met a CANADIAN farmer and they became fast friends
 b. *An american farmer met a Canadian FARMER...
 c. An American farmer met a Canadian BUSINESSMAN...
- (35) a. DOAP (Don't Overlook Anaphoric Possibilities, Williams 1996); Maximize presupposition.
 b. "Build the largest possible *coherent* anaphor"
 c. John bought an apartment yesterday, and Mary did too/and Mary did today

1 Carding and cropping are processes that can be applied to either leather or canvas.

d. DOAP and Question-Answer pairs:

A: Who does John like t

B: John likes BILL

- (36) a. $[[\text{AMERICAN farmer}]^F = [\text{CANADIAN farmer}]^F$
b. $[[\text{AMERICAN businessman}]^F \neq [\text{CANADIAN wholesaler}]^F$
- (37) a. *An AMERICAN businessman met a CANADIAN wholesaler ...
b. *An AMERICAN wholesaler met a CANADIAN businessman ...
c. An American wholesaler met a CANADIAN businessman
d. A CANADIAN businessman met an American wholesaler
e. *A CANADIAN businessman who met an American wholesaler...
f. A Canadian wholesaler who met an AMERICAN businessman ...
- (38) a. An American farmer met an American farmer and they became fast friends
b. * $[[\text{An AMERICAN farmer}]_{\text{NP1}} \text{ met } [\text{an AMERICAN farmer}]_{\text{NP2}} \text{ and they became fast friends}$
c. $[[\text{NP1}]^F = [\text{NP2}]^F \text{ so } [[\text{NP1}]^O \in [\text{NP2}]^F \text{ and } [[\text{NP2}]^O \in [\text{NP1}]^F$
d. An American farmer met $\left\{ \begin{array}{l} \text{a DIFFERENT} \\ \text{ANOTHER} \end{array} \right\}$ American farmer and they became fast friends
- (39) Needs more than DOAP; narrow focus must be contrastive. For Rooth, this entails a theory of when a phrase can or must be construed as in contrast with another.

3. Level of Contrast and Semantic Value

Different kinds of Value

- (40) a. 564-**2131** [21] [31] (anaphoric destressing)
b. *564-21**31** (cf. 564-21**38**)
c. *564-**13**13 (PAID)
- (41) a. [John cursed Mary] and then [SHE cursed HIM]
b. [John cursed Mary] and then [HE was cursed by HER]
c. $[[\text{John cursed Mary}]^O \in [\text{HE was cursed by HER}]^F$
d. * $[[\text{HE cursed HER}]_{\text{S1}} \text{ and then } [\text{HE was cursed by HER}]_{\text{S2}}$
e. $[[\text{S1}] \in [\text{S2}]^F \text{ and } [[\text{S2}] \in [\text{S1}]^F$
f. He GRUMBLED at her, and then HE was given a hard time by HER
grumble at --> give a hard time to
- (42) NP : a theta role bearer
occupier of a case-licensed position
a referring expression
a lexical formula
a phonetic expression
- (43) If NP is disanaphoric, what is being contrasted? In many cases you cannot tell:

- a. John saw Mary and SHE saw HIM
 - 1. John ≠ SHE as a theta role;
 - 2. John ≠ SHE wrt case-licensed position
 - 3. John ≠ SHE as a lexical formula
 - 4. John ≠ SHE as a phonetic expression
- b. [JOHN saw MARY]_{S1} and then [HE was seen by HER]_{S2}
 - 1. theta: John ≠ HE John = HER
 - 2. referring: John = HE John ≠ HER
 - 3. Lexical formula: John ≠ HE John ≠ HER
 - 4. phonetic expr: John ≠ HE John ≠ HER
- c. *[HE¹ saw HER¹]_{S1} and then [HE² was seen by HER²]_{S2}
 - 1. theta: HE¹ ≠ HE² HE¹ = HER²
 - 2. referring: HE¹ = HE² HE¹ ≠ HER²
 - 3. Lexical formula: HE¹ = HE² HE¹ ≠ HER²
 - 4. phonetic expr: HE¹ = HE² HE¹ ≠ HER²

- (44)
- a. c1, c2 are the same as b1, b2
 - b. for 1,2: if X is disanaphoric with Y, then if X and Y have the same theta role, they must have different reference. It is not required that they occupy different positions in their respective clauses.
 - c. for 3,4: if X is disanaphoric with Y, then if X and Y occupy the same "positions" in their respective clauses, then they cannot be phonetically identical.
 - d. These conclusions suggest at least two levels of organization, with contrast at both levels:
 - 1. theta/referential system
 - 2. surface position/phonetic system
 (For both, same first implies different second; and theta/reference contrast is insufficient)
 - e. [HE [verb... HER]_{Special}]_{Special}
 Phonetics:
 verb... is anaphoric;
 HE, and HER are both *phonetically* disanaphoric

Different Levels of Contrast

- (45)
- a. Quem comeu a tarte?
Who ate the pie?
 - b. Comeu a Joana
 - c. *A Joana comeu (Portuguese, M. Ambar 1999 p. 26)
- (46) A Joana comeu (about the others I don't know) (Ambar op. cit.)
(similar facts reported for Spanish (Zubizaretta 1998 p. 20))
- (47)
- a. Qem comeu a tarte?
 - b. B: comeu a Joana
 - C: Não, comeu a MARIA
 - C': *Não, MARIA comeu (M. Ambar pc)

- (48) a. Q: Chí ha gridato?
Who has screamed
b. A: Ha gridato Gianni.
Has screamed John
c. A: *Gianni ha gridato.
John screamed.
d. A: GIANNI, ha gridato.
It is John who screamed. (Samek-Lodovici 1996)
- (49) a Kto citajet knigu? Knigu citajet SAŠA
who reads book-ACC book-ACC reads Sasha
'Who reads the book?' 'Sasha reads the book.'
(Neeleman and Titov ms)
- (50) a. Q: Who do you think Bill saw?
b. A: Who do I think WHO saw?
- (51) a. Odu devocku ljubít KAŽDYJ MAL'CIK.
one girl-ACC loves every boy-NOM
'Every boy loves one girl.' *A > E
- c. KAŽDUJU DEVOCKU ja xocu ctoby odin mal'cik ljubil (a ne každuju babušku).
every girl-ACC I-nom want that one boy-NOM loved (and not every grandma-ACC)
'I want one boy to love every girl (and not every grandma) *A > E (Neeleman and Titov ms)