

Remarks on *each other*

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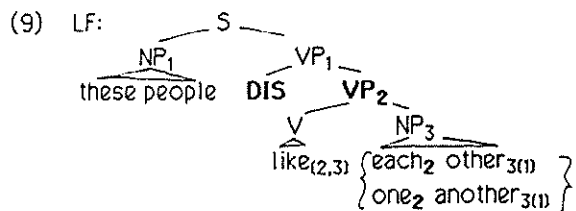
1. Introduction

two puzzles:

- (1) They₁ told each other₁ that they₁ should leave.
- (2) They told each other that they should leave.
- (3) They told each other that they should leave.
- (4) They said they liked each other.
- (5) 'They ~~said~~ said: "We like each other".'
- (6) 'Each said she liked the other.'
- (7) *They said I liked each other.

2. Logical Forms and truth conditions

(8) These people like each other (one another).



LF in linear notation:

[these people]₁ [₁ DIS [₂ like_(2,3) [each₂ other]₃]]

- (10) Coindex the *each* (or *one*) in a reciprocal with a containing predicate that is sister to the DIS(tribution) operator. (This is a case of A'-binding; alternative(?): *each* movement.)
- (11) interpretation of *each* (or *one*): as an individual variable

(12) interpretation of *other*:

"x_i-other_{j(k)}" means: j is a (the) part of k other than i

(13) interpretation of NP₃₍₁₎:

$\exists x_3 [[x_3 \neq x_2 \ \& \ x_3 \in x_1] \ \& \ \dots]$

(14) interpretation of VP₂:

$\lambda x_2 \exists x_3 [[x_3 \neq x_2 \ \& \ x_3 \in x_1] \ \& \ \text{like}(x_2, x_3)]$

(15) interpretation of DIS + predicate:

$\lambda x_1 [\forall x_2 \in x_1: \text{predicate}_2(x_2)]$

(16) interpretation of VP_i:

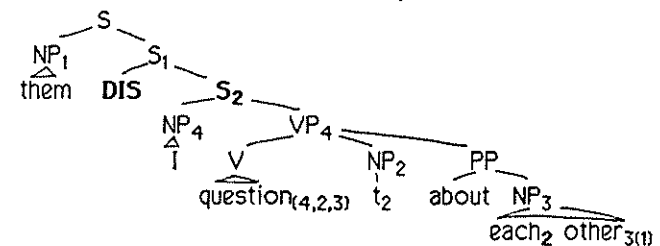
$\lambda x_1 [\forall x_2 \in x_1: \exists x_3 [[x_3 \neq x_2 \ \& \ x_3 \in x_1] \ \& \ \text{like}(x_2, x_3)]]$

(17) interpretation of S:

$\forall x_2 \in \text{these people}: \exists x_3 [[x_3 \neq x_2 \ \& \ x_3 \in \text{these people}] \ \& \ \text{like}(x_2, x_3)]$

(18) I questioned them about each other.

(19) LF (QR applies to *them*; DIS is adjoined to S)



them₁ [₁ DIS [₂ I₄ questioned_(4,2,3) t₂ about [each₂ other]₃]]

3. Binding Theory

(20) *Each* (*one*) is an anaphor;

(*an*)*other* is an R-expression.

(21) An anaphor must be A-bound in its minimal governing category.

(22) The external argument-index i in the theta grid of X_(i,...) counts as a subject whose domain is the XP_i headed by X_(i,...). It also counts as a potential A-binder for positions in XP_i. (Cf. Williams 1980)

(23) John and Mary passed themselves off as a couple.

(24) ?John and Mary both passed themselves off as a couple.

(25) Cf. John and Mary both claimed they were a couple.

- (26) [J and M]₁ [₁ passed-off_(1,..) [themselves₁ as a couple]]
 (27) * [J and M]₁ [₁ DIS/both [₂ passed-off_(2,..) [themselves₁ as a couple]]]
 (28) *[J and M]₁ [₁ DIS/both [₂ passed-off_(2,..) [themselves₂ as a couple]]]

4. Bound variable pronouns

- (29) They invited me.
 (30) they₁ [₁ invited_(1,3) me₃]
 (31) they₁ [₁ DIS [₂ invited_(2,3) me₃]
 (32) She invited me.
 (33) she₁ [₁ invited_(1,3) me₃]
 (34) * she₁ [₁ DIS [₂ invited_(2,3) me₃]
 (35) They invited me to join them.
 (36) they₁ [₁ invited_(1,3,..) me₃ [PRO₃ to join them₁]]
 (37) they₁ [₁ DIS [₂ invited_(2,3,..) me₃ [PRO₃ to join them₁]]]
 (38) they₁ [₁ DIS [₂ invited_(2,3,..) me₃ [PRO₃ to join them₂]]]
 (39) They told each other that they should leave.
 (40) they₁ [₁ DIS [₂ told_(2,3,..) [each₂ other]₃ that **they₁** should leave]]
 ("we should leave" reading)
 (41) they₁ [₁ DIS [₂ told_(2,3,..) [each₂ other]₃ that **they₂** should leave]]
 ("I should leave" reading)
 (42) they₁ [₁ DIS [₂ told_(2,3,..) [each₂ other]₃ that **they₃** should leave]]
 ("you should leave" reading)
 (43) They promised each other to leave.
 (44) they₁ [₁ DIS [₂ promised_(2,3,..) [each₂ other]₃ PRO₁ to leave]]
 ("we will leave" reading)
 (45) they₁ [₁ DIS [₂ promised_(2,3,..) [each₂ other]₃ PRO₂ to leave]]
 ("I will leave" reading)
 (46) * they₁ [₁ DIS [₂ promised_(2,3,..) [each₂ other]₃ PRO₃ to leave]]
 ("you will leave" reading)
 (47) * They forced each other to leave.

- (48) *they₁ [₁ DIS [₂ forced_(2,3,..) [each₂ other]₃ PRO₁ to leave]]
 ("we will leave" reading)
 (49) * they₁ [₁ DIS [₂ forced_(2,3,..) [each₂ other]₃ PRO₂ to leave]]
 ("I will leave" reading)
 (50) they₁ [₁ DIS [₂ forced_(2,3,..) [each₂ other]₃ PRO₃ to leave]]
 ("you will leave" reading)
 (51) They expect every player_i's wife to accompany him_i to social functions.
 (52) They expect each other_i's wives to accompany them_i.
 (53) They criticized every candidate_i after he_i had left the room.
 (54) *After he_i had left the room, they criticized every candidate_i.
 (55) They criticized each other_i after they_i had left the room.
 (56) *After they_i had left the room, they criticized each other_i.
 (57) They saw each other hitting themselves.
 (58) they₁ [₁ DIS [₂ saw_(2,..) [[each₂ other]₃ hitting_(2,3) themselves₃]]]
 (59) They saw themselves hitting each other.
 (60) they₁ [₁ DIS [₂ saw_(2,..) [themselves₂ hitting_(2,3) [each₂ other]₃]]]
 (61) they₁ [₁ saw_(1,..) [themselves₁ [₁ DIS [₂ hitting_(2,3) [each₂ other]₃]]]
 (62) * They saw each other hitting each other.
 (63) * they₁ [₁ DIS [₂ saw_(2,..) [[each₂ other]₃ hitting_(3,3) [each₂ other]₃]]]
 (64) * they₁ [₁ DIS [₂ saw_(2,..) [[each₂ other]₃ [₃ DIS [₄ hitting_(4,5) [each₄ other]₅]]]
 (65) They read each other's books in each other's languages.
 (66) they₁ [₁ DIS [₂ read_(2,3,4) [[each₂ other]₃'s books]₃
 in [[each₂ other]₅'s languages]₄]]]

5. "Wide scope" readings

- (67) John and Mary said they were angry at each other.
 (68) [J and M]₁ [₁ said_(1,..) they₁ [₁ DIS [₂ were angry_(2,3) at [each₂ other]₃]]]
 (69) [J and M]₁ [₁ DIS [₂ said_(2,..) they₁ [₁ DIS [₂ were angry_(2,3) at [each₂ other]₃]]]
 (70) [J and M]₁ [₁ DIS [₂ said_(2,..) **they₂** [₂ were angry_(2,3) at [each₂ other]₃]]]

- (71) * [J and M]₁ [₁ DIS [₂ said_(2,...) they₁ [₁ were angry_(1,3) at [each₂ other]₃]]]
- (72) * [J and M]₁ [₁ DIS [₂ said_(2,...) they₇ [₇ were angry_(7,3) at [each₂ other]₃]]]
- (73) * John and Mary said I was angry at each other.
- (74) * [J and M]₁ [₁ DIS [₂ said_(2,...) I₇ [₇ was angry_(7,3) at [each₂ other]₃]]]
- (75) They each said they were angry at each other.
- (76) They predicted that they would defeat each other in tomorrow's match.
- (77) They are convinced they are superior to each other.
- (78) (*) I due pensano di essersi battuti.
the two thought be-CLITIC beaten
- (79) I due pensano di avere prevalso l'uno sull'altro.
the two thought have prevailed the one over the other
'They thought they had defeated each other.'
- (80) (*) Sie behaupten, sich ausgestochen zu haben.
they claimed outdone to have
- (81) Sie behaupten, einander ausgestochen zu haben.
they claimed one another outdone to have
'They claimed they had outdone each other.'
- (82) (OK/?) Their_i coaches say they_i will beat each other.
- (83) (*) The articles about them_i say they_i will beat each other.
- (84) They wanted to visit each other.
- (85) [J and M]₁ [₁ wanted_(1,...) PRO₁ [₁ DIS [₂ to visit_(2,3) [each₂ other]₃]]]
- (86) [J and M]₁ [₁ DIS [₂ wanted_(2,...) PRO₁ [₁ DIS [₂ to visit_(2,3) [each₂ other]₃]]]
- (87) [J and M]₁ [₁ DIS [₂ wanted_(2,...) PRO₂ [₂ to visit_(2,3) [each₂ other]₃]]]
- (88) They voted to keep each other's comments confidential.