Remarks on each other
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1. Introduction

two puzzles:

(1) They told each other that they 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: "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).
(9) LF:

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S -> NP1 DIS VP2 VP1
these people DIS like(2,3) [each2 other3(1)]
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LF in linear notation:

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[these people]1 [DIS [t2 like(2,3) [each2 other3(1)]]
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(10) Coinde each (or one) in a reciprocal with a containing predicate that is sister to the DIS(trubination) 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:

"x1-other(j)(k)" means: j is a (the) part of k other than i
(13) interpretation of NP3(1):

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\exists x \exists x_2 [x_3 \neq x_2 & x_3 \in x_1] & \ldots
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(14) interpretation of VP2:

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\lambda x_2 \exists x_3 [x_3 \neq x_2 & x_3 \in x_1] & like(x_2,x_3)
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(15) interpretation of DIS + predicate:

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\lambda x_1 [\forall x_2 \in x; predicate(x_2)]
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(16) interpretation of VP1:

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\lambda x_1 [\forall x_2 \in x; \exists x_3 [x_3 \neq x_2 & x_3 \in x_1] & like(x_2,x_3)]
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(17) interpretation of S:

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\forall x \in these people: \exists x_3 [x_3 \neq x_2 & x_3 \in x_1] & like(x_2,x_3)
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(18) I questioned them about each other.
(19) LF (QR applies to them; DIS is adjoined to S)

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S -> NP1 DIS VP4 VP3 PP
them1 DIS [t2 I4 questioned(4,2,3) t2 about [each2 other3(1)]
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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 Xpi counts as a subject whose domain is the XPj governed by Xpi. It also counts as a potential A-binder for positions in Xpi,
(23) John and Mary passed themselves off as a couple.
(24) John and Matt both passed themselves off as a couple.
(25) Cf. John and Matt both claimed they were a couple.
4. Bound variable pronouns

(29) They invited me.
(30) they1 [i invited(1,3) me3]
(31) they1 [i DIS [2 invited(2,3) me3]]
(32) She invited me.
(33) she1 [i invited(1,3) me3]
(34) * she1 [i DIS [2 invited(2,3) me3]]

(35) They invited me to join them.
(36) they1 [i invited(1,3) me3 [PRO3 to join them1]]
(37) they1 [i DIS [2 invited(2,3) me3 [PRO3 to join them1]]]
(38) they1 [i DIS [2 invited(2,3) me3 [PRO3 to join them2]]]

(39) They told each other that they should leave.
(40) they1 [i DIS [2 told(2,3,1) [each2 other]3 that they1 should leave]]
("we should leave“ reading)
(41) they1 [i DIS [2 told(2,3,1) [each2 other]3 that they2 should leave]]
("I should leave” reading)
(42) they1 [i DIS [2 told(2,3,1) [each2 other]3 that they3 should leave]]
("you should leave” reading)

(43) They promised each other to leave.
(44) they1 [i DIS [2 promised(2,3,1) [each2 other]3 PRO1 to leave]]
("we will leave“ reading)
(45) they1 [i DIS [2 promised(2,3,1) [each2 other]3 PRO2 to leave]]
("I will leave“ reading)
(46) * they1 [i DIS [2 promised(2,3,1) [each2 other]3 PRO3 to leave]]
("you will leave“ reading)
(47) * They forced each other to leave.

(48) they1 [i DIS [2 forced(2,3,1) [each2 other]3 PRO1 to leave]]
("we will leave“ reading)
(49) * they1 [i DIS [2 forced(2,3,1) [each2 other]3 PRO2 to leave]]
("I will leave“ reading)
(50) they1 [i DIS [2 forced(2,3,1) [each2 other]3 PRO3 to leave]]
("you will leave“ reading)

(51) They expect every player1’s wife to accompany him1 to social functions.
(52) They expect each other’s wives to accompany them1.
(53) They criticized every candidate1 after he1 had left the room.
(54) *After he1 had left the room, they criticized every candidate1.
(55) They criticized each other1 after they1 had left the room.
(56) *After they1 had left the room, they criticized each other1.

(57) They saw each other hitting themselves.
(58) they1 [i DIS [2 saw(1,3,1) [[each2 other1]3 hitting(2,3) themselves1]]]
(59) They saw themselves hitting each other.
(60) they1 [i DIS [2 saw(1,3,1) [[[each2 other1]3 hitting(2,3) themselves1]]]]
(61) they1 [i saw(1,3,1) [[[each2 other1]3 hitting(2,3) [each2 other1]]]]
(62) * they1 [i DIS [2 saw(1,3,1) [[each2 other1]3 hitting(2,3) [each2 other1]]]]
(63) * they1 [i DIS [2 saw(1,3,1) [[each2 other1]3 hitting(2,3) [each2 other1]]]]
(64) * they1 [i DIS [2 saw(1,3,1) [[each2 other1]3 hitting(2,3) [each2 other1]]]]
(65) They read each other’s books in each other’s languages.
(66) they1 [i DIS [2 read(2,3,1) [[each2 other1]3’s books1]]
in [[each2 other1’s languages1]]

5. “Wide scope” readings

(67) John and Mary said they were angry at each other.
(68) [J and M] they1 DIS [2 were angry(2,3) at [each2 other1]]
(69) [J and M] they1 DIS [2 were angry(2,3) at [each2 other1]]
(70) [J and M] they1 DIS [2 were angry(2,3) at [each2 other1]]
(71) "[J and M] said [they were angry at each other]."
(72) "[J and M] said [they were angry at each other]."

(73) "John and Mary said I was angry at each other.
(74) "[J and M] said [they were angry at each other]."

(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 previsto 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 ausgestoßen zu haben.
            they claimed outdone to have
(81) Sie behaupten, einander ausgestoßen zu haben.
            they claimed one another outdone to have
            'They claimed they had outdone each other.'

(82) (OK?!) Their coaches say they will beat each other.
(83) (*) The articles about them say they will beat each other.

(84) They wanted to visit each other.
(85) [J and M] wanted [to visit each other].
(86) [J and M] wanted [to visit each other].
(87) [J and M] wanted [to visit each other].

(88) They voted to keep each other's comments confidential.