Reviving Linking Theory in Terms of Move

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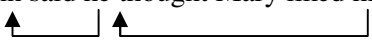
Since Higginbotham (1983) proposed linking as a device for expressing anaphoric relations, it used to be an important issue which device is more appropriate to express such relations, indexing or linking. A sentence like John said he thought Mary liked him will be represented with indices as in (1a) and with links as in (1b) to express the coreferential relationship among John, he and him:

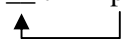
(1) a. $John_1$ said he_1 thought Mary liked him_1 b. John said he thought Mary liked him



Recently, Abe (2014) has revived linking theory by reformulating it in derivational terms, so that links simply express the way Move takes place. Adopting this derivational theory of anaphora, this paper aims to vindicate what was claimed about how anaphoric relations are syntactically established under linking theory. Abe (1993) argues that linking theory provides a nice way to distinguish coreference anaphora from bound variable anaphora. A sentence like Many students think they are smart is two ways ambiguous, depending on whether they is interpreted as a variable bound by many students or it refers to the set denoted by many students. Abe (1993) proposes that these two readings are distinguished in the way the pronoun is linked to the quantifier: the variable reading is obtained when the pronoun is linked to the trace of many students, whereas the referential reading is obtained when it is linked directly to this quantifier. Adapting this idea into Abe's (2014) movement theory, I propose that there are two ways to derive the relevant sentence:

(2) Set-Merge:

a. __ think pro are smart



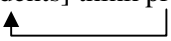
(pro-movement)

b. pro think they are smart (pronouncing the bottom copy of pro)

c. many students think they are smart (lexical overlay of many students onto pro)

(3) Pair-Merge:

a. [many students] think pro are smart



(pro-adjunction)

b. [[many students] pro] think they are smart (pronouncing the bottom copy of pro)

The derivation given in (2) is exactly what Abe (2014) will derive the sentence: first pro-movement takes place and the bottom copy of the resulting chain is pronounced for remedy of a locality violation induced by the movement, and then lexical materials are inserted into the top copy. The derivation given in (3) is what I propose as another option, in which pro is adjoined to its antecedent many students. I assume that the Set-Merge option (2) establishes bound variable anaphora, whereas the Pair-Merge option (3) establishes coreference anaphora. Then I hypothesize that unlike the Pair-Merge option, the Set-Merge option is initiated by the operation Search, just as in Chomsky's (2000, 2008) probe-goal system. Thus, in (2), the matrix v may search for pro and it finds one in the embedded subject position in this case. I argue that this hypothesis gives rise to a number of good consequences. Among them, it immediately explains why bound variable anaphora requires a c-command relationship between a pronoun and its antecedent, as shown below:

(4) a. His_1 mother likes $John_1$.

b. * His_1 mother likes every boy_1.

In such a case of non-c-commanding anaphora as illustrated in (4a), Abe (2014) exploits sideward movement of pro to establish a coreferential relation. Under the present assumption that such a relation is established by the Pair-Merge option, (4a) is derived in the following way:

(5) a. $[_{DP}$ pro mother], [likes John]

(sideward movement of pro)

b. $[_{DP}$ his mother], [likes [[John]pro]] (pronouncing the bottom copy of pro)

c. $[_{TP}$ $[_{DP}$ his mother] [likes [[John]pro]]

In (5a), pro undergoes sideward movement to pair-merge with John, and the tail of the resulting chain is pronounced as his, as in (5b). The final output is produced by combining his mother and likes [[John]pro] in the usual way, as in (5c). On the other hand, a case of bound variable anaphora such as (4b) cannot be derived in the same way with the Set-Merge option, since this option requires a Search operation, which must find the relevant pronoun in its searching domain, namely the complement of a searching head. Hence, the c-command requirement on bound variable anaphora follows. Further, assuming that Search must be minimal, we can explain why the following sentence does not have all of the logically possible four readings ((i)

they(bound)-they(bound), (ii) they(referential) -they(referential), (iii) they(bound)-they(referential), (iv)*they(referential)-they (bound):

(6) Many students think they said that they are smart. (Montalbetti 1984:65)

The lack of the fourth reading is naturally attributed to a violation of minimal Search: In the following configuration:

(7) $[_{vP}$ __ v $[_{VP}$ think $[_{CP}$ $[_{TP}$ pro_1 said $[_{CP}$ that $[_{TP}$ pro_1 are smart]]]]]]

the matrix v cannot find the pro located in the most embedded subject position since the pro located in the middle subject position intervenes in this Search operation; hence the lower pro cannot be interpreted as a variable bound by many students. On the other hand, the first reading (they(bound)-they(bound)) is derived in such a way that the lower pro is searched not by the matrix v but rather by the middle v, as shown below:

(8) a. $[_{vP}$ __ v $[_{VP}$ say $[_{CP}$ that $[_{TP}$ pro_1 are smart]]]]

b. $[_{vP}$ pro_1 v $[_{VP}$ say $[_{CP}$ that $[_{TP}$ $they_1$ are smart]]]]

c. $[_{vP}$ __ v $[_{VP}$ think $[_{CP}$ $[_{TP}$ pro_1 said $[_{CP}$ that $[_{TP}$ $they_1$ are smart]]]]]]

d. $[_{vP}$ many students v $[_{VP}$ think $[_{CP}$ $[_{TP}$ $they_1$ said $[_{CP}$ that $[_{TP}$ $they_1$ are smart]]]]]]

In (8a), pro_1 is successfully found by the minimal Search conducted by the middle v and undergoes Move to its Spec. After the bottom copy is pronounced, as in (8b), pro_1 undergoes further movement to the matrix Spec-vP after the relevant minimal Search is conducted, as in (8c). The final output is derived after the bottom copy is pronounced and the top copy is overlaid with many students, as in (8d). As for the second reading (they(referential)-they(referential)), minimal Search is simply irrelevant since the derivation involves only the Pair-Merge option, and in the third reading (they(bound)-they(referential)), the relevant minimal Search from the matrix v properly finds the upper pro for its target. Thus, with Minimal Search in place, we can properly explain why a sentence like (6) does not have all the logically possible readings.

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