On Bound Pronouns

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1. INTRODUCTION. A pronoun cannot function as a variable bound by a wh-phrase in Korean data (1) whereas in the corresponding English sentence (2) such a reading is readily possible.

(1) * nwu$_i$-ka   kui-uy   cinku-lul   binanhaessni ?[1]
    who$_i$-Nom   he$_i$-Gen   friend-Acc   criticized
    'Who$_i$ criticized his$_i$ friend?'

(2)   Who$_i$ criticized his$_i$ friend?'

Montalbetti (1984) would explain the contrast between (1) and (2) through his Overt Pronoun Constraint (OPC). OPC basically prohibits a bound variable interpretation of an overt pronoun if empty pronoun *pro* is available in the same position. Therefore in pro-drop languages like Korean and Japanese, since *pro* is available in almost all nominal positions for a bound variable interpretation, an overt pronoun may never be interpreted as a bound variable, which accounts for the Korean data (1). For the English data (2), since English is not a pro-drop language, the overt pronoun can be used as a bound variable.

However, as can be seen in some of the examples below, for many native speakers of Korean including myself, an overt pronoun can be used as a bound variable.

(3) a. * modu$_i$-nun   kunyo$_i$/ku$_i$-ka   ttottokhata-ko   sangahkhan-ta
       everyone-Top   she/he-Nom   intelligent-Comp   think

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'Everyone thinks that she/he is smart.'
  b. * modun jikwoni-un   kunyo$_i$/ku$_i$-ka ttottokhata-ko   sangahkhan-ta
     every employee-Top she/he-Nom intelligent-Comp   think
     'Every employee thinks that she/he is smart.'
  c. modun yobisuh$_i$-nun   kunyo$_i$-ka ttottokhata-ke sangahkhanta
     every female secretary-Top she-Nom   intelligent-Comp   think
     'Every female secretary thinks that she is smart.'
  d. modun namhaksang$_i$-un ku$_i$-ka   ttottokhata-ko   sangahkhanta
     every boy-Top   he-Nom intelligent-Comp   think
     'Every boy thinks that he is smart.'

(4) a. * nwu$_i$-ka   kunyo$_i$-uy bumo-lul   yanglowon-ey   bonaessni?
    who-Nom   she-Gen parents-Acc nursing home-to   sent
    'Who sent her parents to a nursing home?'
  b. * nwu$_i$-ka   ku$_i$-uy bumo-lul   yanglowon-ey   bonaessni?
    who-Nom   he-Gen parents-Acc nursing home-to   sent
    'Who sent his parents to a nursing home?'
  c. ettun yoja$_i$-ka   kunyo$_i$-uy bumo-lul   yanglowon-ey bonaessni?
    which woman-Nom she-Gen parents-Acc nursing home-to sent
    'Which woman sent her parents to a nursing home?'
  d. ettun namja$_i$-ka ku$_i$-uy bumo-lul   yanglowon-ey   bonaessni?
    Whicch man-Nom he-Gen parents-Acc nursing home-to   sent
    'Which man sent his parents to a nursing home?'

A similar pattern can also be found in the following Japanese data for most of the native speakers that I consulted.

(5) Japanese
    a. * daremo$_i$-ga   kanojo$_i$/kare$_i$-ga   kasikoito   omotteiru
      everyone-Nom   she/he-Nom   smart   think
      'Everyone thinks that she/he is smart.'

b. * dono gakusei$_i$-mo   kanojo$_i$/kare$_i$-ga   kasikoito   omotteiru
   every student   she/he   smart   think

c.   dono syojo$_i$-mo   kanojoi-ga   kasikoito   omotteiru
   every girl   she   smart   think

d.   dono syoneni-mo   karei-ga   kasikoito   omotteiru
   every boy   he   smart   think

In the (c) and (d) examples of the above data (3) through (5), the bound variable interpretation of the overt pronouns is acceptable, whereas it is not permitted in the (a) and (b) examples. It is not clear how this fact can be captured by Montalbetti (1984). Since Korean and Japanese are pro-drop languages, the bound variable interpretation of the overt pronouns should be prohibited in the (c) and (d) examples just like in the (a) and (b) examples due to the availability of empty pronoun *pro*, according to him.

In this paper, I will attempt to develop a theory that accounts for the (un)availability of bound variable interpretation of pronouns in the above data within the GB framework.

2. REFERENTIALITY AND BOUND VARIABLE INTERPRETATION OF PRONOUNS.

As one can see in the above data, whether the overt pronouns can function as a bound variable or not seems to depend upon what type of wh-phrase or quantifier phrase binds them. For the (un)acceptable examples of data (3) through (5), if their relative (un)acceptability centers upon some unique relation between a binder (wh-phrases/quantifier phrases) and a bindee (pronouns), the question is what is the exact nature of the relation between the two that allows some sentences and rules out others. I propose that this relation should be characterized as relative referentiality between the binder and the bindee, and suggest that Lasnik's (1991) prohibition against binding of

more referential expressions by less referential ones may be the underlying assumption behind the existence of bound variable reading of pronouns.[2] Then, with the prohibition a correlation between such a reading and referentiality can be established as:

(6) Between a binder (wh-phrases/quantifier phrases) and a bindee (pronouns) A and B, if A binds B, then B cannot be more referential than A.

What the above condition predicts is that any sentence in which the bindee is more referential than the binder should fail to yield a bound variable reading. Now the crucial question about condition (6) is how to define referentiality. Following Lee (1997), I propose that the amount of phi-features (person, number, and gender) that nominal expressions carry can determine relative referentiality of two nominal expressions in a binding relation.[3] With the addition of this definition of referentiality, (6) can be rephrased as (7):

(7) Between two nominal expressions A and B, A is regarded as more referential than B iff A has more lexical content (phi-features: gender, person, number) than B. Mark * for any representation containing two nominal expressions A and B such that A binds B, if B (bindee) is more referential than A (binder). A binds B iff A is coindexed with B and A structurally antecedes B.

Now let us briefly consider how condition (7) may account for data (3), (4), and (5). For the unacceptable (a) and (b) examples, the bindees (pronouns) are more referential than the binders (wh-phrases or quantifier phrases) according to the notion of referentiality given in (7). On the other hand, in the case of the acceptable (c) and (d) examples,

the bound pronouns are not more referential than the binding expressions in terms of the amount of phi-features. To put the account into more specific terms, in (3a) and (b), the binders *modu* ('everyone') and *modun jikwon* ('every employee') have only person and number features with the gender feature unspecified, and the bindee *kunyo* ('she') and *ku* ('he') are fully specified in all phi-features. Therefore the two sentences can be correctly ruled out according to (7) since *modu* and *modun jikwon* (3rd, singular) bind more referential *ku* and *kunyo* (3rd, singular, female), which have more phi-features. In acceptable (3c) and (d), the binders *modun yobisuh* ('every female secretary') and *modun namhaksang* ('every boy') are fully specified in all phi-features like the bindees *kunyo* and *ku*, therefore condition (7) is not violated. In unacceptable (4a) and (b), the binder *nwu* ('who') is specified in person and number features only (3rd, singular) with the gender feature unspecified whereas the bindees *kunyo* and *ku* are fully specified in all features, hence the violations of condition (7). Analogous accounts can be provided for acceptable Korean data (4c) and (d), and Japanese data (5).[4]

The proposed account of the foregoing data clearly shows that relative referentiality between binder and bindee plays a significant role in determining whether or not the overt pronouns can be interpreted as a bound variable. The above data also show that if an overt pronoun is bound by a relatively referential wh-phrase/quantifier phrase, it may function as a bound variable unlike what Montalbettis (1984) account would predict.

This observation based upon the relative referentiality between binder and bindee is a valid one because in the unacceptable (a) and (b) examples of (3), (4), and (5), if the overt pronouns are replaced with featureless *pro* or Korean anaphor *casin* ('self') and Japanese *zibun* ('self'), the unacceptability disappears. This indicates that the
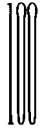
non-referential *pro* and anaphor may always function as bound variables. That *casin* and *pro* are featureless and non-referential since they are unspecified in person and gender features can be seen in the following data showing that they can take any gender and person antecedents.[5]

(8) nah$_i$/ nuh$_i$/ku$_i$/kunyo$_i$-nun casin$_i$-uy/pro$_i$ eomony-lul cal   tolboessta.
     I/you/he/she-Top   self-Gen/pro   mother-Acc well   took care of
     'I/You/He/She took good care of my/your/his/her mother.'

3. SOME APPARENT PROBLEMS. English pronoun *he/his* can be freely interpreted as a bound variable in (9) as in (2) above.

(9)   a.   Who$_i$/Which person$_i$ loves his$_i$ mother?[6]
      b.   Who$_i$/Which kid$_i$ did you say likes his$_i$ teacher?
      c.   Everyone$_i$/Every student$_i$ loves his$_i$ mother.
      d.   Everyone$_i$/Every employee$_i$ thinks that he$_i$ is smart.

Then the question is why condition (7) is inoperative in the English data. In (2) and (9), even though condition (7) is violated, the data are all acceptable and the bound variable interpretation of the pronouns is possible in all the sentences of (9) and (2). So the question is why there is a difference between English and Korean/Japanese in the application of condition (7). However, whether there exists such a difference between English and the other two languages may not be so obvious, if we consider the following English data.

(10) a.   Everyone$_i$ thinks that she$_i$ is smart.
      b.   [3rd, sg.]$_i$ ----------[3rd, sg. female]$_i$
(11) a.   Every woman$_i$ thinks that she$_i$ is smart.

      b.   [3rd, sg. female]$_i$ ---------[3rd, sg. female]$_i$

(12) a.   Everyone$_i$ thinks that he$_i$ is smart.

      b.   [3rd, sg.]$_i$ -----------[3rd, sg.]$_i$

                                generic

In (10a) and (11a), unlike the data in (9) and (12a) where the pronoun *he* is used, *she* is used instead. Quite a few native speakers agree that even though in (11a) and (12a) the bound variable interpretation of the pronouns can be easily derived without specific discourse contexts, in (10a) the same interpretation is not readily available if the sentence is uttered without some pragmatic contextual cues. For many native speakers, there is a contrast between (10a) and (12a), in terms of the availability of the bound variable interpretation of the pronouns, if both sentences are uttered non-discourse contextually. This difference may be due to the fact that *he* is genericized in its usage whereas this is not the case for *she*. If *he* is generic (gender unspecified), then it could be a gender-neutral third person pronoun, whereas the non-genericized *she* should always be gender-specific.

Given this assumption, the contrast between (10a) and (12a) can be explained in the following manner. In (10a) the bound interpretation may not be derived because *everyone* binds more referential *she* as shown in (10b), whereas in (12a) the bindee, generic *he* (gender-neutral), is not more referential than the binder *everyone* as shown in (12b), which accounts for the fact that the bound interpretation is readily available even without pragmatic contexts. Such being the case, we may claim that condition (7) may be operative even in English data (2), (9), and (10) through (12). Therefore it may be the case that there is no difference between English and Korean/Japanese in the application of condition (7).

Nevertheless, two questions still remain to be answered. First, a

sociolinguistic account should be given as to why the same type of genericization does not take place for Korean pronoun *ku* (he) unlike its English counterpart. Second, it is not yet clear precisely under what linguistic contexts English pronoun *he/his* can or cannot be genericized.

4. SUMMARY. In this paper, I attempted to predict the (un)availability of bound variable reading of pronouns by using the notion of referentiality. I established the relation between the bound reading and referentiality as: *Between two nominal expressions A and B, A is regarded as more referential than B iff A has more lexical content (phi-features) than B. Mark * for any representation containing two nominal expressions A and B such that A binds B, if B is more referential than A.* The underlying assumption behind this relation was Lasnik's (1991) prohibition against the binding of more referential expressions by less referential ones.

NOTES

[1] The following abbreviations are used in this paper: Top.= topic marker; Comp.= Complementizer; Nom.= nominative case marker; Gen.= genitive case marker; Acc.= accusative case marker; sg.= singular; *(asterisk) = ungrammatical or unacceptable.

[2] Lasnik (1991) proposed a referential hierarchy among R-expressions, pronouns, and anaphors (R-expression > pronoun > anaphor) on the basis of the universal condition that a less referential expression cannot bind a more referential one. For details, see Lasnik (1991).

[3] In Lee (1997), I proposed a referential hierarchy of anaphoric nominals in Korean and argued that the varying degrees of long distance binding effects different anaphoric expressions show correlate with the relative

referential hierarchy established among them. I determined the hierarchy primarily by phi-features anaphoric nominals carry. For the relation between referentiality and phi-features, see Lee (1997) and references cited therein.

[4] Condition (7) cannot account for the availability of bound variable reading of the pronoun in English data (2). See section 3 below for this problem.

[5] Some speakers agree that even though there is a clear contrast between (3a) & (b) on one hand and (3c) & (d) on the other hand, there may be an additional contrast inside (3c) & (d). In other words, in (3c) and (d) if *pro* or *casin* replace the overt pronouns *kunyo* or *ku*, their judgement on the data improves from marginal to perfect. The same pattern may hold for the Japanese data (5c) & (d), in addition to the clear contrast between unacceptable (5a) & (b) and acceptable (5c) & (d) noted by most native speakers I consulted. The slight contrast some native speakers detect between *pro/casin* and the overt pronouns in (3c) & (d) may be explained by another generalization that the wider the referential gap between two nominal expressions A (binder) and B (bindee), the more acceptable the binding relation is. In other words, binder may have to be maximally referential whereas bindee may have to remain minimally referential with respect to its binder. Taking (3d) for example, the referential gap between *modun namhaksang* ('every boy'; binder) and *pro/casin* (bindee) may be substantially wider than that between *modun namhaksang* (binder) and *ku* ('he'-bindee). Therefore, the former binding relation may be better in acceptability than the latter binding relation to some speakers. As far as my judgement is concerned, there is no contrast between the two binding relations, as there is no contrast between *pro/casin* and the overt pronoun in (4c) and (d).

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