Antecedence Possibilities for Plural *caki* in Korean

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1. Introduction
In this paper, I concern myself with the Korean anaphor *caki*, particularly its plural form *caki-tul*. After an examination of the possible interpretations for *caki-tul* which are cited in existing literature, I move on to propose a preferential hierarchy for readings of *caki-tul*. This hierarchy is then evaluated through testing with native speaker judgements. The conclusions from this evaluation will be shown to feed the larger discussion on the binding theoretic nature of *caki*. Through this, I will argue that *caki* is best characterised as a bound variable.

This paper is organised as follows: in section 2, I present the existing data on the interpretation of *caki-tul*. Section 3 introduces the proposed hierarchy, with testing and evaluation in section 4. Finally, section 5 takes on the broader topic of the binding theoretic status of *caki*.

2. Previous Accounts
There have been a number of different attested possible interpretations for *caki-tul*, which, when taken together, present at best a confused picture of the situation. Before dealing with the plural, it is worthwhile to recall some basic facts about *caki*.

One of the more uncontroversial claims about *caki* is the fact that it can only take a third-person antecedent:

(1) Na$_1$/Ne$_2$-nun [John$_4$-i caki$_{1,2,4}$-lul silheha-n-ta-ko] mit-nun-ta.
  believe-PRES-DECL
  `I/you believe that John hates self.’ (Yoon 1989, ex 12b)

As this example shows, only the third person nominal may be interpreted as the antecedent of *caki*; the first and second person pronouns are not
accepted. It is worth noting that this is not a positional restriction, and that the distance between *caki* and those pronouns, as well as the fact the pronouns are overtly marked as topics, is not a factor here. The possibility for long-distance anaphora is one of the signature traits of *caki*, along with subject orientation. Interestingly though, where there is no antecedent, *caki* is cited as having a second-person interpretation:

(2) Caki-ka chakhay.
    SELF-NOM good
    ‘You are good.’ (Sohng 2003, ex 16a)

Sohng (2003) refers to this reading as Inherent Reference.
*Caki* can be pluralised using the -*tul* morpheme, and can take a plural antecedent, here composed from a conjunction of two proper names:

(3) Mary₄-kwa-John₅-i caki-tul₄,₅-ul piphan-ha-yess-ta.
    Mary-and-John-NOM SELF-PL-ACC criticise-do-PST-DECL
    ‘Mary and John criticised selves.’

Cases such as this, where there is a clear reading between *caki-tul* and a plural noun phrase will be called Matched Plural.

According to the literature, where there is no plural antecedent, but two singular noun phrases, a Split Antecedence reading can result:

(4) John₄-un Mary₅-eykey [caki-tul₄,₅-i iki-lke-la-ko]
    John-TOP Mary-DAT SELF-PL-NOM win-FUT-DECL-COMP
cmpo-malha-yess-ta.
    SAY-PAST-DECL
    ‘John told Mary that selves would win.’ (Huang 2000, ex 2.179)

Here, *caki-tul* is interpreted as a plurality composed of the two singular proper nouns, John and Mary. It is interesting here that split antecedence is attributed to *caki-tul*, as it is usually a property of pronouns, not
anaphors. As cited from Huang (2000), this example is explicitly used to claim that long-distance reflexives can take split antecedents. Similarly-structured sentences are noted in Cho (1996) as showing only purported evidence for split antecedence, so this is at best a contentious judgement. Indeed the same sentence appears in Yoon (1989) with not only the indicated split antecedence reading, but a further reading where caki-tul is indexed as being interpreted as John, plus some other extra-sentential referent. The question of whether or not there is split antecedence can also feed into the discussion of whether or not caki is subject-oriented. If a part of caki-tul’s antecedent can be from a non-subject dative argument, it can not be the case that caki is absolutely subject-oriented.

A further possibility is the case where there is only one singular antecedent for caki-tul:

   ‘John said that selves would win.’ (Madigan & Yamada 2006, ex 5a)

Here, caki-tul is interpreted as meaning John, plus some other contextually salient group, such as a team, co-workers, or family members. Madigan & Yamada (2006) classify this reading, the final one to be considered here, as a case of Inclusive Reference.

3. Proposal In considering all these possibilities for caki-tul, it is worth re-examining examples (4) and (5). What is striking here is that the sentences are virtually identical, save for the presence of the dative argument in the split antecedence case. This suggests that were (5) to have an additional dative argument, it should also yield a split antecedent reading for caki-tul. In other words, the possibility of a split antecedent reading would obviate an inclusive reference one. If this is the case, then there is the potential of proposing a wider-ranging hierarchy of possible readings:
Plural Antecedent (Matched) > Multiple Singular Antecedents  
(Split Antecedence) > Singular Antecedent (Inclusive Reference) > No Antecedent (Inherent Reference)

The scale shown in (6) makes the assumption that a matched plural reading for *caki-tul* is most preferential. Failing this, if the plurality can be maintained where there are multiple singular antecedents by way of split antecedence, that is the next best choice. Where there is only one singular antecedent, inclusive reference results, and it is expected that where there is no antecedent for *caki-tul*, inherent reference should still be a possible reading, as in the singular example above. To test the validity of this hierarchy, sentences were constructed and presented to native speakers for judgements as to the reading of *caki-tul*.

4. Findings The first findings to be discussed will deal with inherent reference, and the fact that *caki* can not take a first or second person antecedent. Inherent reference turned out to be quite productive, obtaining where *caki* was plural, and even where there was more than one *caki* in a given sentence:

(7)a. Caki-tul$_2$-i chakhay.  
SELF-pl good  
‘You all are good.’  

b. Caki$_2^{-}ka$  caki$_{2/2^{-}}$-lul coaha-n-ta.  
SELF-nom SELF-acc like-pres-decl  
‘You like self.’  
‘You like you.’ (two different people)

Looking first at (7)a, it is clear that the inherent reference reading is also available for *caki-tul*, which verifies that the lowest stage on the scale in (6) is a possible reading.

Sentence (7b) does not bear directly on the matter of *caki-tul*, but it does provide a further insight into the nature of *caki*. First of all, the sentence has two possible readings. In both cases, the subject *caki*
unambiguously takes the inherent reference reading; the difference lies in the accusative *caki*. It may either be interpreted as referring to the same person as the subject, in effect locally bound, making this an exceptional case in which *caki* actually does have a second person antecedent. However, with emphasis and explicit pointing, each *caki* can be used to refer to a different addressee, along the lines of a deictic expression. Compare this with sentence (8):

(8) Na₁-ka caki₂-ulu coaha-n-ta.
   1SG-NOM SELF-ACC like-PRES-DECL
   ‘I like you.’

As noted above, *caki* is incompatible with a first person pronoun. Elsewhere in the literature, this sentence is marked as ungrammatical with the pronoun and *caki* co-indexed. However, it is not the case that the sentence itself is ungrammatical. A perfectly grammatical reading does exist, wherein *caki* takes inherent reference. This provides further support for the low end of the scale in (6), as it indicates that inherent reference is always available as a last resort strategy for sentences containing *caki* with no compatible antecedent. Indeed, no test sentence constructed for this investigation was judged ungrammatical; in all cases one of the possibilities on the scale in (6) was chosen.

Turning now to inclusive reference, readings such as those in (5) were easily duplicated:

(9) John₄-i caki-tul₄+α-ul sokay-ha-yess-ta.
   John-NOM SELF-PL-ACC introduce-do-PST-DECL
   ‘John introduced selves.’

As shown, *caki-tul* was judged to refer to John and ‘some other guys’, the only major difference between this example and that above being that the sentence in (9) is monoclausal. In principle, there is no reason that the *caki-tul* in (9) could not be read as having inherent reference, but
such readings were never offered. This suggests that the possibility of inclusive reference does obviate inherent reference.

To test for split antecedence, a dative argument was added to cases which had previously shown inclusive reference:

\[(10) \quad \text{John}_4 \text{Mary}_5 \text{caki-tul}^{4+}_6 \text{ul} \text{ Sokay-ha-yess-ta.} \]
\[
\begin{array}{llllll}
\text{John-} & \text{Mary-} & \text{SELF-} & \text{introduce-} & \text{PST-} & \\
\text{NOM} & \text{DAT} & \text{PL-ACC} & \text{PST-DECL} & \\
\end{array}
\]

\[\text{‘John introduced self to Mary.'}\]

Contrary to expectations, a split antecedence reading did not obtain here. Instead, subject-oriented inclusive reference was given as the only possible reading. When pressed, some native speakers can interpret Mary as being a part of the contextually salient group instantiated through the inclusive reference, but this was not obligatorily so. For other speakers, it is more natural to first interpret caki-tul as referring to both Mary and John in this case, but those speakers further agree that Mary is not obligatorily included in the reading of caki-tul. Either way then, the point is the same: there is no firm connection here between the dative argument and caki-tul. This finding clearly challenges the notion of split antecedence being a possibility for caki-tul, though it is in line with the claim in Cho (1996) that what is interpreted as split antecedence is in fact just a case of accidental coreference. The dative argument can be a part of the set of individuals denoted by caki-tul in (10), but it is not the case that there is any binding relationship between the two.

A parallel example with a first person pronoun in the subject position illustrates an at first unexpected finding:

\[(11) \quad \text{Na}_1 \text{Mary}_5 \text{caki-tul}^{2+}_3 \text{ul} \text{ Sokay-ha-yess-ta.} \]
\[
\begin{array}{llllllll}
\text{1SG-} & \text{Mary-} & \text{SELF-} & \text{introduce-} & \text{PST-} & \\
\text{NOM} & \text{DAT} & \text{PL-ACC} & \text{PST-DECL} & \\
\end{array}
\]

\[\text{‘I introduced you all to Mary.'}\]

Given what has been seen so far, it is not surprising that caki-tul remains incompatible with the first person pronoun in the subject position.
However, inclusive reference with the dative argument should, in theory, be the next best choice, given that caki has been argued to be only weakly subject oriented (Sohng 2003). At first glance, this would appear to be a likely case where that weakness would be exploited; facing an incompatible subject, caki may reasonably be expected to find an antecedent in the dative argument. However, what emerges is that caki-tul takes an inherent reference reading instead, ignoring the dative altogether. (11) thus demonstrates that subject orientation remains strong in this case. Context is an important factor though, as replacing the verb in (11) yields a different result:

(12) Na1-ga Mary3-eykey caki-tul5-ul poyecwu-yess-ta.
    1SG-NOM Mary-DAT SELF-PL-ACC show-PST-DECL
    ‘I showed selves to Mary.’

With the action of showing, it is reported to be easier to get an inclusive reference reading bound by the dative. In this case, subject orientation does weaken in order for caki to be bound.

Similar results were obtained when a plural antecedent was used in test sentences. Not surprisingly, where there was a plural subject and a singular dative, accusative caki-tul in the same clause was unambiguously read as referring to the subject. More interesting were cases where the dative was plural:

(13) John4-i Bill5-kwa-Mary6-eykey caki-tul4,5,6-ul piphana-yess-ta.
    ‘John criticised selves to Bill and Mary.’

In this sentence, two readings for caki-tul were offered. The first was again a subject-oriented inclusive reference reading, but binding by the plural dative was also possible. A parallel result obtained when the subject was replaced with a first person pronoun:
Inherent reference surfaces here, indicating an inclination toward subject orientation: in the face of an incompatible subject, the last resort is taken. However, as in (13), subject orientation weakens, and a reading connecting caki-tul and the plural dative is possible. Though it is again possible that the lexical semantics of the verb is playing a role, judgements seem less categorical in the plural cases. This may indicate that the weakening of subject orientation is being driven by movement toward a plural antecedent, not away from a first person pronoun.

Long distance cases yielded essentially the same patterns. Two noteworthy examples are discussed below:

(15) John-i Maryeykey [caki-tul4+α iki-ess-ta-ko]
    John-NOM Mary-DAT SELF-PL-NOM win-PST-DECL-COMP
    mal-ha-yess-ta.
    say-do-PAST-DECL
    ‘John said to Mary that selves won.’

This sentence allows a direct comparison with (5), the original inclusive reference example, in that it is exactly the same sentence, but with a dative argument added. Similar to what was seen in the monoclausal examples, this sentence did not yield a split antecedence reading, only inclusive reference.

Finally, the presence of a plural dative in a bi-clausal structure yielded an interesting result:

    mal-ha-yess-ta.
    say-do-PAST-DECL
Identification of caki-tul with the plural dative argument was reported easier in a long-distance case than in a monoclausal sentence. Whether this is a function of the predicate’s lexical semantics, or the syntactic structure somehow favouring non-subject binding over long distances, subject orientation clearly weakens in the exact position one would not expect it to: long-distance.

To summarise the findings, firstly, no sentence containing caki or caki-tul was judged to be ungrammatical; in all cases, one choice on the hierarchy from (6) was selected. The largest challenge to the proposed hierarchy was that there does not seem to be any solid case for split antecedence. No such readings were offered, and putative split antecedence interpretations can be reduced to cases of inclusive reference where the contextually-defined group happens to contain other referents present in the sentence. Lastly, there was an observed interplay with the lexical semantics of the predicates involved and subject orientation which the originally proposed hierarchy did not account for. A revised hierarchy is presented below:

(17)  
Plural Subject Antecedent (Matched) > Non-subject Antecedent (Matched or Inherent Reference), Singular Subject Antecedent (Inclusive Reference) > No Suitable Antecedent (Inherent Reference)

At the highest level, there is no real change. A plural subject is the most ideal antecedent for caki-tul and will always be chosen if present. At the next level, there is variation which can depend upon the lexical semantics of the verb, or possibly the syntactic structure; choices can range from matched plural with a dative, or inclusive reference with the subject or a dative. Where there no potential antecedent, the last resort inherent reference is chosen. In the final analysis, there is a clear ideal antecedent, and a clear last resort, but interactions with the lexical
semantics of the verbs make it impossible to absolutely define the “middle ground” in the hierarchy.

5. On the nature of caki These findings do also speak to the larger question of the binding-theoretic nature of caki. The standard view is that caki is a long-distance anaphor, a definition which automatically carries along the notion of subject orientation. The reasoning for this comes from the generative account of binding for long distance anaphors (Chomsky 1986; Cole, Hermon & Sung 1990) which reduces long distance anaphora to a local dependency via LF movement. The anaphor, being an X₀ category, adjoins to a local head position, then proceeds via head-movement to the matrix Infl where it can only be bound by the matrix subject; absolute subject-orientation is thus a consequence of this analysis. Caki-tul has not demonstrated absolute subject orientation, which calls into question the existing generative account.

Caki is also an exceptional long-distance anaphor in that it is acceptable in monoclausal sentences. There is no impression of an antilocality condition at work here, and an account based upon Iatridou’s Condition D (Iatridou 1986) will not suffice. Furthermore, it is something of a misnomer to call caki a reflexive, at least in the sense of Reinhart and Reuland (1993), because it can function across clauses. If caki can be an argument of a different predicate than its antecedent, then there is no semantic reflexivity. Caki does generally require a c-commanding antecedent though, which suggests that there is structural binding at work, not merely co-reference, indicating that caki is not a pronoun. Furthermore, one of the more pronoun-like attributes of caki, split antecedence, has already been shown to be a red herring.

Looking at cases such as (14), a monoclausal sentence in which caki-tul, the complement of V₀, can be bound by a dative argument, presumably also in the vP domain, in situ binding would appear to be the most natural choice for explaining the behaviour of caki-tul, and thus caki.

An approach where caki remains in situ is also motivated by the following example:
In this example, *caki* can be treated as a bound variable, bound by a quantifier. This suggests the possibility that Quantifier Raising may be employed in describing *caki* binding, yielding the operator-variable structure below:

(19) [Antecedent, [ λ [ ...t...caki,... ] ]]

One strong prediction of this analysis would be that potential antecedents for *caki* should be constrained by environments which are opaque to A’ extraction. Testing this is a part of the future work suggested by this project.

Additionally, a working formal semantics for this bound-variable treatment of *caki* should be formulated, with particular emphasis on the behaviour of *caki-tul*. An important aspect of this will be to formally capture the division of labour between *caki* and *-tul* in expression of the inclusive reference reading for *caki-tul*, as there must be a combination of binding and context-sensitivity. Finally, a more broad-based data collection process is required to test the claims made here, particularly to explore the connection between *caki*, its antecedent, and discourse saliency.

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References