The interaction of the binding principles and the Chinese reflexive taziji

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1. Introduction

The basic approach of the Binding Theory, as set forth in Chomsky (1980, 1981 & 1986) is that index is first arbitrarily applied to NP's with the results then being checked at surface structures to see whether certain conditions are satisfied. While it has little problem to account for clear-cut cases of anaphors and pronominals, the theory turns out to have left open two complicating issues. The first one has to do with grammatical sentences which can violate the binding principles at the same time. The other is concerned with nominals such as the English PRO which can be subcategorized as both an anaphor and pronominal at the same time. Even though the PRO Theorem provides the licensing condition for its distribution, i.e., ungoverned positions, it is silent on when PRO should or should not be bound and if it does, how its antecedent is located.

The goal of this paper is to propose a tentative Optimality-theoretic solution to the above two problems with a special reference to the Chinese reflexive *taziji*. Language specifically, I will show that the binding of the Chinese reflexive is decided not by any single principle alone but the interaction of a set of binding conditions. In particular, I will show that given a grammatical input, we can rely on a hierarchy of binding constraints to predict when the reflexive should and should not be bound and in the latter case select an antecedent for the reflexive. Theoretically, this paper is intended as a first attempt to explore the advantage of applying a constraint-based approach to the study of binding relations.

2. The binding of taziji: Basic facts

The Chinese reflexive taziji is made up of two morphemes: the third person singular pronoun ta (he/she) and the bare reflexive ziji (self). Both forms of taziji share the same pronunciation, though they differ in their written forms. (In this paper, taziji will be used in the masculine sense unless otherwise noted.) In the literature, taziji has been considered either a free variant (Li and Thompson 1981) or a surface representation of the Chinese bare reflexive ziji (cf. Tang 1989). Whatever its relation to ziji, however, it suffices for us to focus on taziji here, since, as has been assumed in the literature, binding relations are checked at surface structures. For more information on the bare reflexive ziji as well as its relation to taziji, please refer to Li & Thompson (1981), Wang & Stillings (1990), Battistella & Xu (1990), Tang (1989), Huang & Tang (1991), Xu (1993 & 1994) and Pan (1995).

We now turn to the binding properties of *taziji*. In most cases, the reflexive will take a local antecedent, as shown in (1) and (2). In both sentences, it occupies the complement position of the verb *xihuan* (like) and has to be co-indexed with the sentential subject *John* and *pengyou* (friend) respectively:

(1) Johni xihuan tazijii. like he-self. John likes himself. (2) [IP [NP1 [NP2 John; de] pengyou]j [VP xihuan [NP3 taziji*i/j]]]
's friend like himself

John's friend likes himself.

When the above simple sentences are embedded within other sentences, the reflexive will display the same kind of binding property, as shown in (3):

(3) [IP1 John_i [VP1 suo [IP2 Bill_j [VP2 xihuan taziji*i/j]]]]. say like he-self John says that Bill likes himself.

In (3), *taziji* is bound to the immediately available subject *Bill* of IP₂, even though another subject *John* in the higher IP₁ can serve as its potential antecedent (as we will see later).

Similar to its locality nature at the verb complement position, *taziji* will behave as a local anaphor even when it occupies either the subject position as in (4) or the Spec position of an NP as in (5):

(4) John; suo [IP1 Bill; yiwei [IP2 taziji*i/j bu hui zuo chunjuan]]. say think he-self no able make egg rolls.

John said that Bill thought that he-self was not able to make egg rolls.

(5) Johni bu xiangxin [IP1 Billj hui suo [IP2 [NP taziji*i/j/*k de taitai]k no believe will say he-self 's wife piaoliang]].
pretty

John doesn't believe that Bill would say that his wife is pretty.

In (4), there is no subject other than *taziji* within IP2 and the reflexive finds its antecedent *Bill* in the higher IP1. Within IP2, a co-indexing between *taziji* and itself will constitute a violation of the so-called *i-within-i* condition (Chomsky 1981). In (5), the same filter disallows the co-indexing between *taziji* and the sentential subject *taitai(wife)*. Instead, the reflexive has to be bound to the sentential subject *Bill* in the higher IP1.

While the *i-within-i* condition must be observed all the time, the c-commanding condition, in contrast, turns out to be violable in the binding of *taziji*. Even though all the above examples satisfy the c-commanding condition, it is not the case with the following sentence (Pan 1995):

(6) [IP [NP John; de taidu]; [VP hail-le taziji;/*j]]

's attitude hurt-ASP himself

John's attitude hurt himself.

In (6), John is at the Spec position of the NP (which serves as the subject of the sentence) and functions as an antecedent for taziji, and yet it does not c-command the reflexive.

The c-commanding condition, however, is not the only requirement that the binding of *taziji* will sometimes fail to meet if the reflexive is taken as a local anaphor. Recent evidence from Yu (1992) and Pan (1995) indicates that *taziji* can also bear the properties of a long-distance anaphor and hence creating an overall

violation of Principle A. (7a) and (8a) are two such examples ((7a) is (10) in Yu 1992. (8a) is (204b) in Pan 1995.):

(7) a. [IP1 Johni suo [IP2 Maryj bu xihuan ta-MAS-ziji/*j]].

say not like he-self.

John says that Mary doesn't like himself.

b. [IP1 Johni suo [IP2 Maryj bu xihuan tai/*j/k]].

say not like he.

John says that Mary doesn't like him.

(8) a. [IP1 Johni yao [IP2 woj zuo zai [NP taziji/*j de shenbian]]].

want I sit at he-self 's side

John wants me to sit at his side.

b. [IP1 Johni yao [IP2 woj zuo zai [NP tai/*j-de shenbian]]].

want I sit at he 's side.

John wants me to sit at his side.

In (7a), the masculine taziji is governed by the verb xihuan (like). The subject of the lower IP2, Mary, is thus an accessible subject. However, taziji has to choose instead the subject John in the higher IP1 as its antecedent. This is in contrast to the pronominal ta (him) in (7b) which can optionally be free in the whole clause. In (8a), taziji occupies the Spec position of an NP in IP2 and has to be co-indexed again with the matrix subject John in the higher IP1. This is similar to the possessive pronoun ta-de (his) occupying the same position as in (8b). Whatever positions it occupies, both (7a) and (8a) demonstrate that taziji is no longer a pure local anaphor. Rather, it acts as a long-distance one which must be bound to an antecedent outside the minimal governing category IP2. Within the lower IP2, however, it can be optionally free.

Despite its anaphoric orientation, there are other cases in which *taziji* can be either A- or A'-free, as the following three examples illustrate ((9) is (13a) and (10) is (12) in Yu 1992, respectively. (11) is from my own informants):

(9) nii wen taziji*i/j.
you ask he-self.
You ask him(self).
(10) taziji zengmo suo?
he-self how say

he-self how say What (or how) does he say?

(11) taziji shenghuo shifen jianku dan hai shi leli bangzhu taren. he-self life very hard but still be willing help others He(-self), though living a hard life, is still willing to help others.

In (9), taziji occupies the complement position of the verb wen (ask) and yet there is no qualified antecedent to which it can be bound, since the sentential subject ni (you) does not agree with taziji in person. In (10) taziji occupies the subject position and there are simply no nominals in the sentence which can serve as its potential binder. In (11), taziji functions as the topic of the whole sentence and occupies an A'-position. No antecedent is available for taziji, either. In all the three cases, taziji is free.

To sum up, we have seen that *taziji* displays a diversity of binding properties: It can be locally bound as a pure anaphor, though c-commanding

condition is not a strict requirement on its binding; it can be long-distance bound when no qualified local candidate is found within the minimal governing category; it can even be A- or A'-free when no qualified antecedent is available in the whole sentence. These properties are a clear reflection of the two complicating issues mentioned in the introduction. In the following section, I will review briefly how the binding of *taziji* has been accounted for in the literature.

3. Previous analyses

Past insights into the nature of *taziji* fall into two schools. One school treats the reflexive as a pure local anaphor subject to Principle A of the Binding Theory (Wang & Stillings 1990, Battistella & Xu 1990 and Huang & Tang 1991). For example, Battistella & Xu (1990) propose that:

(12) Taziji is bound to the closest accessible subject.

While it has no problem in dealing with the local anaphoric reading of *taziji*, the above principle is apparently unable to account for the other properties of the reflexive as shown in (6) to (11). For example, in (6) *John*, which occupies the Spec position of the subject NP, does not c-command the reflexive, even though the reflexive has to be bound to it. A further technical difficulty in their account is that in the relevant literature, it is not clear how the distance between the reflexive and its antecedent (for the measurement of closeness) is formally evaluated.

Problems in the above treatment were first reported by Yu (1992), though he provided no alternative solution. A comprehensive treatment came recently from Pan (1995) in which an attempt was made to formalize the concept of closest

accessible subject.

Pan's insights are mainly based on the observation that whenever possible, the local anaphoric reading always takes over the long-distance reading. The latter will avail only when the local subject does not agree with *taziji* in phi-features. These ideas are formalized in his Compatibility and Closeness Conditions:

(13) The Compatibility Condition

 α and β are compatible iff

a. α and β have compatible animacy features; and

b. α and β are syntactically, semantically and pragmatically compatible.

(14) The Closeness Condition

 α is closer to X, the reflexive, than β iff the path from X to the minimal maximal projection dominating α is a subset of the path from X to the minimal maximal projection dominating β .

In essence, Pan's Compatibility Condition is no more than a restatement of the common assumption in the literature that a co-indexed pair should be interpretable. The Closeness Condition further specifies that the distance between the two should be kept minimal. With these two explicit conditions, Pan's Principle A is formulated as follows:

(15) Principle A

An anaphor must be bound to the closest compatible candidate, where a candidate for an anaphor is a noun phrase that does not dominate the anaphor.

When it is applied to (3), this principle is equivalent to Chomsky's (1981) Principle A in its judgment of the sentence. In (3), the path from John to taziji is [IP1, VP1, IP2, VP2], whereas that from Bill to taziji is [IP2, VP2] which is a subset of the former. In terms of Pan's Closeness Condition, Bill is closer to taziji than John and qualified as its antecedent. Note that Bill is within the minimal governing category and c-commands the reflexive.

Without the c-commanding condition, this principle has again the same effect as Chomsky's Principle A which predicts that in sentences such as (6) taziji will select John rather than anything else as its antecedent. In (6) we find that the subject NP taidu (attitude) cannot be an antecedent of taziji, because their coindexing would otherwise violate Pan's Compatibility Condition on animacy agreement. Note that John, which occupies the Spec position of the sentential subject NP, is the only animate NP in the utterance, even though it does not command the reflexive.

Though Pan's theory caters for more binding properties of *taziji*, there are still two unsatisfactory aspects in his account of the reflexive. First, it is unclear how the concept of compatibility can be evaluated. For example, the exclusion of other phi-features such as gender, person and number in his Compatibility Condition fails to accommodate for the long-distance anaphoric reading of *taziji* as shown in (7a). According to Pan's Compatibility Condition, (7a) would be judged ungrammatical, since *Mary* does agree with *ta*-MAS-*ziji* in animacy and hence is a compatible antecedent for *taziji*. So is *John* in the same sentence. Given two compatible nominals as candidates for antecedency, his theory predicts that the closer one, i.e., *Mary*, would be the antecedent, though it is not true in this case.

The second problem in Pan's account is related to the exclusion of c-commanding condition from his principle. Even though we have seen that the condition is not a strict requirement on a potential antecedent for *taziji*, it nonetheless plays a role in certain situations such as the following:

(16) Johnį yiwei [IP1 Billj [VP1 [PP dui Davidk] suo [IP2 taziji*i/j/*k/*1 thinks to say he-self' [VP2 xihuan Sam1]]]].

like

John thought that Bill said to David that he liked Sam.

In (16), the antecedent *Bill* c-commands *taziji*, whereas neither *David* nor *Sam* does. However, *Bill* is as distant as *David* and further away than *Sam* from the reflexive. It is unclear how Pan's Principle A would evaluate this since no specific c-commanding condition is included.

It is clear from the above brief review that the diversity of the binding properties of *taziji* creates a dilemma in the conventional application of the Binding Theory. We have seen that principles such as the c-commanding condition hold at one time but are violable at another. We have also seen that a competition for closeness is evident in the selection of an antecedent for the reflexive. The interaction and competition among those principles suggest the need for a new mechanism to accommodate for them. In this sense, the insights of the Optimality Theory may point to an alternative solution.

4. A constraint-based perspective of the binding theory

Optimality Theory (Prince & Smolensky 1993) is a model of constraints and constraint interaction on output representations. In OT, a grammar is a system of ranked, violable universal constraints. In formal terms, it consists of two functions: First, the function GEN maps an input representation, through some optional structure-building operations, into a (possibly infinite) set of candidate outputs. These candidates are then fed into the function EVAL for evaluation. EVAL in turn contains a hierarchy of constraints which rates parallelly each member of the candidate set. The most optimal candidate, i.e., the one with least violations of the constraints, is selected as the well-formed or grammatical.

Apparently there is a parallel between the conception of the Optimality Theory and the basic approach to the Binding Theory. It is therefore beneficial for us to try to adopt the insights of the Optimality Theory to the study of binding relations. In this section I discuss in general terms how the notions and principles of the Binding Theory can be converted as constraints in the Optimality-theoretic

framework.

The first step in accessing binding relations, i.e., the co-indexing between a nominal and its potential antecedent, can be defined as an optional operation in GEN: It assigns a binding relation to each pair of nominals in an input sentence. In formal terms, this will be a partial function. For example, given a set of NP's such as {John, himself} from an input sentence John likes himself, it will output a set of ordered pairs as in (17):

Note that in (17) the output of GEN is represented as a set of ordered pairs (as used in logic). Unlike its usage in phonology, the triangular bracket notation is used here to denote a binding relation: The first element in the ordered pair is to be considered a candidate antecedent (which usually occupies a higher position in the phrase structure, whether dominating or preceding) with which the second element is to be co-indexed. Further, an element outside an ordered pair in the candidate set is to be considered free.

With the set of candidate outputs, the next step is to determine which member of the set is the most optimal, i.e., well-formed. This is where the various

binding notions and principles are brought into play.

To understand how they interact with each other, we need to take a look at the classification of nominals. In the literature, a nominal is classified in terms of two primary features, i.e., [anaphor] and [pronominal], with either a positive or negative value. Such a framework of nominal classification actually implies a basic assumption: The former must have an antecedent somewhere, whether implicitly or explicitly, while there is no such a quirement for the latter. (We will call the former referentials and the latter non referentials hereafter.) This distinction provides the basic conditions in a constraint-based approach to the study of binding relations:

(18) Binding Conditions

a. BIND: <..., α> α, being a referential, must be present as the second element in an ordered pair.

b. *BIND: *<..., α> α, being a non-referential, must not be the second element in an ordered pair.

In the above set, BIND requires that a referential such as a reflexive must be present in an ordered pair as its second element. *BIND, in contrast, forbids a non-referential nominal such as an R-expression to be present at the same position. The workings of this set of constraints are quite similar to that of the Faithfulness Conditions in phonology which seeks a correspondence between input and output. When the two constraints either dominate or being dominated by other constraints, we will find the diversity of the binding properties for such nominals as the Chinese reflexive taziji.

We now turn to the relation between a referential and its potential antecedent as defined in the standard Binding Theory. On the one hand, it is expected that there must be a nominal to which a referential in question can be bound. The basic requirement, as has been assumed in the literature, is that it does not conflict with the referential in phi-features. On the other hand, it is expected that the antecedent of an anaphor should c-command the referential and their co-indexing should not violate the so-called the *i-within-i filter* (Chomsky 1981). The three atomic conditions are put together in (19) as Accessibility Conditions:

(19) Accessibility Conditions

- a. φ-feature agreement: *<αF, βF>. Two co-indexed nominals must have no conflicting φ-features.
- b. i-within-i: *[β ... α ...], where α and β also form < β , α >.
- c. c-commanding: The antecedent must c-command the referential.

With these atomic conditions, both Principle A and B can in fact be taken as a requirement on the distance between the antecedent and a referential in terms of minimal governing category. On the one hand, Principle A requires that the antecedent be the closest qualified nominal (to an referential) which satisfies the above atomic conditions. On the other hand, Principle B excludes this nominal from being a candidate, even though it does not specify where a legal candidate should appear.

With the above outline, we now turn to the discussion of the Chinese reflexive *taziji* to see how those ideas can be applied to account for its binding properties.

5. Optimal binding of taziji

In Section 2 and 3, I have shown that the reflexive can behave as a local anaphor. This kind of binding property can be captured with the first two atomic conditions of (19), namely, phi-feature agreement (19a) and *i-within-i* filter (19b). (c-commanding condition is to be discussed later in this section.). These two constraints require that an optimal co-indexed pair such as <NP1, NP2> should agree in their phi-features and that NP2 is neither identical to nor embedded within NP1. A violation will be registered for any phi-feature disagreement or embedding relation between the two nominals. Since these two conditions are the basis for an meaningful binding relation, they are to be placed at the top of the constraint hierarchy we are now building, even though ranking between the two is not necessary.

Further, we need the constraint BIND as in (18a), since *taziji* is by nature a referential. This constraint requires that a nominal be co-indexed with another one as its antecedent. It will register a violation for a nominal outside an ordered pair (in our current notation). As for its ranking, it is to appear lower than the two

accessibility conditions, namely, Accessibility >> BIND. Such a ranking amounts to say that if a nominal is to be co-indexed with another one and their binding be well-formed, the minimal requirement is that their co-indexing be interpretable.

These three constraints can handle the selection of a A- or A'-free *taziji* as seen in (9) in which no compatible antecedent for the reflexive is found in the whole sentence. Tableau 1 demonstrates this evaluation.

Tableau 1

Candidates	*<αF, βF>	*[β α]	BIND
a. <ni, <i="">taziji></ni,>	*!		
b. < <i>taziji, taziji</i> >		*!	
喀 c. taziji			*

In the above tableau, even though the A-free *taziji* violates BIND, it is nonetheless more optimal than the other two co-indexed pairs. In comparison, $\langle ni, taziji \rangle$, in which the two elements do not agree in person, violates the higher $\langle \alpha F, \beta F \rangle$. $\langle taziji, taziji \rangle$, on the other hand, creates a violation of the *i-within-i* condition. This is exact the common assumption in the literature that an anaphor need not be bound if there is no nominal which COULD serve as an accessible subject.

The same constraint hierarchy is also good for the selection of a local antecedent for *taziji* as seen in (1) in which there is only one qualified potential antecedent in the sentence whose configuration satisfies the standard Principle A. Tableau 2 demonstrates the relevant evaluation:

Tableau 2

Candidates	*<αF, βF>	BIND
a. <i>taziji</i>		*!
😘 b. <john, taziji=""></john,>		

As the above evaluation indicates, even though both candidates do not violate the higher $*<\alpha F$, $\beta F>$, <John, taziji> outperforms the unbound taziji which is outside an ordered pair, since the latter constitutes a violation of the lower BIND. Compared with Tableau 1, this evaluation demonstrates how an optimal output in one utterance can become less optimal in another.

The competition for the best may also lead to the long-distance reading of taziji, as we have seen in cases such as (7a) in which John, the subject in the higher clause, is the antecedent to which the reflexive has to be bound. Tableau 3 demonstrates this competition:

Tableau 3

Candidates	*<αF, βF>	BIND
a. <i>taziji</i>		*!
☞ b. <john, <i="">taziji></john,>		
c. <mary, taziji=""></mary,>	*!	

In Tableau 3, <John, taziji> emerges as the winner, since it violates none of the two constraints. In comparison, <Mary, taziji> loses because of the two elements' disagreement in gender. The defeat of the unbound taziji comes from its failure of having an binder and hence constituting a violation of BIND.

The above set of constraints, however, is not sufficient for the selection of a locally bound *taziji* when there are other potential compatible antecedents available in a sentence. In (3), for example, both *John* and *Bill* can serve as an antecedent for the reflexive, though *taziji* will choose the latter as its actual antecedent. In Battistella & Xu (1990) and Pan (1995), this has been referred to as the closeness

effect. The same insight will also be adopted here as a constraint, though it is worded in a slightly different way:

(20) Minimal Distance Condition (MinDist)

Assign a * to each intervening dominating maximal projection between α and β .

Technically, the number of maximal projections is counted in the way as defined in Pan's Closeness Condition (cf. (14)). This constraint says that the distance between a referential and its antecedent, measured by the number of maximal projections, should be kept minimal if at all possible. It will register a violation for each intervening maximal projection. As for its ranking, it is to appear after BIND. Otherwise, an unbound *taziji* will always emerge as the most optimal candidate since the constraint applies to it vacuously. The following tableau demonstrates how this constraint interacts with previous ones such as BIND in the selection of an antecedent for *taziji* in (3):

Tableau 4

Candidates	BIND	MinDist
a. <i>taziji</i>	*!	
b. <john, <i="">taziji></john,>		****!
r c. <bill, taziji=""></bill,>		**

In Tableau 4, <Bill, taziji> is the most optimal, since the path between the two elements is [IP2, VP2] which creates only two violations of the Minimal Distance Constraint. In comparison, the path between the two elements in <John, taziji> is [IP1, VP1, IP2, VP2] which constitutes four violations of the same constraint. Further, the unbound taziji violates BIND and hence is ruled out as an optimal output.

The necessity of the constraint is also evident in the account of (2) in which, if we ignore the c-commanding condition for a moment, Pan's Closeness Condition produces the same effect as Chomsky's (1981) Principle A. We note that in (2) both John and pengyou (friend) can function as a possible antecedent for taziji. However, the latter is closer to the former, since the path from pengyou (friend) to taziji is {IP, VP} which is a subset of the path from John to taziji {NP1, IP, VP}. The following tableau demonstrates how the sentential subject pengyou (friend) instead of John is selected as its antecedent in (2):

Tableau 5

Candidates	BIND	MinDist
a. <i>taziji</i>	*!	
b. <john, <i="">taziji></john,>		***!
c. <pengyou, taziji=""></pengyou,>		* *

As can be seen in the above tableau, the evaluation works just like that in Tableau 4 in which anaphoric resolution is worked out through the Minimal Distance Condition.

Note that in the above sentence, the best choice happens to c-command the reflexive. Even though Minimal Distance Condition can account for the grammaticality of the sentence without imposing a c-commanding condition on the antecedent, it does not imply that c-commanding condition is never needed, as we have already seen in (16). (In (16) we have noted that it is a c-commanding nominal *Bill* which functions as the antecedent for *taziji*, even though in terms of Pan's

Closeness Condition, it is as distant from the reflexive as *David* in the PP and *Sam* is even closer to the reflexive.) That being the case, the c-commanding condition as in (19c) is to be included in our hierarchy. As for its ranking, the case of *Sam* vs *Bill* in (16) suggests that it is to be placed higher than the Minimal Distance Condition, whereas the case of an unbound *taziji* indicates that it should be placed lower than BIND. Otherwise, an unbound *taziji* will always be a winner. The following tableau demonstrates how it interacts with other constraints in the evaluation of (16):

Tableau 6

Candidates	BIND	c-commanding	MinDist
a. <i>taziji</i>	*!		
b. <john, <i="">taziji></john,>			*****!
c. <david, taziji=""></david,>		*!	***
d. <sam, taziji=""></sam,>		*!	**
r e. <bill, taziji=""></bill,>			***

In the above tableau, we find that <Bill, taziji> emerges as the most optimal. In comparison, <John, taziji> is ruled out as an optimal output since the pair has four violations of the Minimal Distance Condition. The other two ordered pairs, <David, taziji> and <Sam, taziji>, lose their chances simply because they constitute a violation of the c-commanding condition, even though David is as distant from the reflexive as Bill and Sam even closer. The story of the unbound taziji is a familiar one.

To conclude this section, the constraint hierarchy we have proposed is listed in (21):

(21) *
$$\alpha$$
F, β F>, * $[\beta...\alpha...]$ >> BIND >> c-commanding >> MinDist

6. Concluding remarks

In this paper, I started by pointing out two embedded problems in the conventional approach to the Binding Theory, namely, the violation of binding principles and the multiple binding properties of a nominal. I illustrated the two problems with the Chinese reflexive taziji in which I showed that its binding is decided not by any single rule but the interaction of a set of conditions. To solve these problems, an Optimality-theoretic approach to the Binding Theory was proposed. In particular, I argued that the assignment of binding relations can be related to GEN and the binding principles can be interpreted as constraints used by EVAL. With this new perspective, I showed that a properly ranked constraint hierarchy as in (21) can account for the complex binding properties of the Chinese reflexive when it appears in a grammatical input sentence.

There are remarks to be made here before we conclude this paper: First, note that I have assumed that for evaluation, comparison is made among surface representations of grammatical input only. I did not discuss why and how an ungrammatical sentence such as John says that I like himself is excluded from consideration. I leave this question open for further research. Secondly, the Minimal Distance Constraint is proposed here with a gradient nature (rather than discrete). The validity of this proposal needs further empirical verification. Finally, it should be pointed out that even though the two issues addressed in this study are common across many languages, I have not had any chances, due to the size of the paper, to examine similar reflexives in other systems. Future research is needed to verify the validity of this approach by applying it to a larger body of empirical data.

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