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Empathy and Coreference of Pronominals

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Coreference of pronominals is one of the main topics of modern linguistic theories. In this paper, this problem will be dealt with in relation to the notion of "empathy," in Kuno (1978, 1987). He claims that reflexives are a kind of "empathy expression," the coreference of which is sensitive to his empathy constraints. However, "empathy" seems to exert influence not only on reflexives but also on other kinds of pronouns, including the empty pronominal "PRO" assumed in Government and Binding Theory. Thus the aim of this paper lies in enlarging the applicable domain of this notion in linguistic explanation. In the first section, a brief introduction of "empathy" will be set forth in relation to the use of reflexives; in the second and the third sections, the application of this notion will be demonstrated as regards personal pronouns and PRO, respectively; some apparent counterexamples against the claim of this paper will be brought forth in the fourth section, and they will be accounted for by way of a new requirement on empathy application; and in the last section, a summary and a conclusion will be stated.

1.0   Empathy

In a series of works by Kuno, various kinds of syntactic phenomena are successfully accounted for by making use of the idea of whose camera angle the speaker takes in describing an event. The key term in his account is "empathy."

(1)   Empathy is the speaker's identification, which may vary in degree, with a person/thing that participates in the event

　　　or state that he describes in a sentence. [Kuno (1987)]
And he sets up an empathy constraint on reflexives to explain
the use of this type of anaphorical expression:

(2)　　A sentence that contains a reflexive pronoun with a clause-
　　　mate antecedent must be interpretable as one produced
　　　from the camera angle of the referent of the reflexive.
　　　[(ibid.)]

Now we will consider the following examples:[1]

(3)　　a. John$_i$ talked to Mary about himself$_i$.[2]

　　　b. ??Mary talked to a student$_i$ about himself$_i$.

　　　c. ?*Mary talked to someone$_i$ about himself$_i$. [(ibid.)]

The degree of acceptability changes in relation to the definite-
ness of antecedents of reflexives. Kuno gives an account for this
phenomenon by means of a hierarchy of definiteness:

(4)　　Anaphoricity Hierarchy: We assume the following hierarchy
　　　regarding the relative degrees of anaphoricity.

　　　　Definite NPs>Indefinite NPs>Indefinite Pronouns

　　　Then, reflexives are better when their antecedents are higher
　　　in the hierarchy than any other NPs in the same sentence.

It seems easier for the speaker to empathize with a definite and
familiar referent than with an indefinite and unfamiliar referent.
So this hierarchy together with the constraint (2) explains the
gradience in acceptability of the sentences in the paradigm (3):
(3b) is worse than (3a) in that the antecedent of reflexive in
the former case is an indefinite NP; and (3c) is still worse
because the antecedent is an indefinite pronoun.

　　　As in the hierarchy (4), definiteness is a requirement of
anaphoricity, or rather of empathy application. Kuno sets up
some other hierarchies of empathy to account for various kinds of
linguistic phenomena, but here I will concentrate on the factor
of definiteness, and one more —— that of referentiality.

　　　Kuno (ibid.) gives some examples to suggest that non-
referential elements should be out of the scope of empathy con-

straint. This is because it is almost impossible for the speaker to empathize with the referent of a non-referential expression whose existence is not necessarily claimed. Kuno does not give an empathy hierarchy as regards referentiality, but it seems plausible to assume that it is easier for the speaker to empathize with the referent of a referential NP than with that of a non –referential NP.[3]

In the following sections, these two factors of empathy application will be employed to show the influence of this functional notion on pronouns and PRO, or pronominals.

2.0   Pronouns

Here in this section, a way of testing the empathy constraint on pronouns is proposed. And the way to test is to provide two possible candidates for the antecedent of a pronoun and to vary the definiteness and referentiality of one of the candidates. For example:

(5)   a . When *John* and *Bill* were talking together, they saw Mary in front of them. So [he] started to talk to her.

         b . When *John* and someone were talking together, they saw Mary in front of them. So [he] started to talk to her.

(6)   a . *John* is going to interview *Bill*. We are sure that [he] is very excited.

         b . *John* is going to interview the winner of the next race. We are sure that [he] is very excited.

[Those candidates which are likely to be in coreferential relation with the pronouns in brackets are italicized.]

In sentences (5 a) and (6 a), either "John" or "Bill" can be the antecedent of [he]. In (5 b), "John" is likely to be the antecedent, but "someone," an indefinite element, is not. In parallel with this sentence, (6 b) shows that when a referential candidate and a non-referential one are involved, the former is

likely to be chosen as an antecedent. These instances clearly indicate that the element which tends to be the focus of empathy has more potentiality to enter into coreference with a pronoun than the element which does not. This fact is compatible with the constraint on reflexives (2) — in other words, both reflexivization and pronominalization have much to do with the degree of empathy application.[4]

The same tendency of antecedent choice is recognized in the case of objective [him], and possessive [his]:

(7) a. Mary saw *Bill* and *Harry* talking with each other, and after a while, she came up to [him] to talk about a secret.

  b. Mary saw *Bill* and someone talking with each other, and after a while, she came up to [him] to talk about a secret.

(8) a. *John* and *Bill* talked about [his] picture.[5]

  b. *John* and a friend of *Bill's* talked about [his] picture. Especially in the case of (8 b), "John" and "Bill" are equally available as the antecedent, while "a friend of Bill's," the direct participant of the event described in the sentence, is less likely to be the antecedent than "Bill," who did not take part in the event in actuality. This seems to be symbolic of the fact that definiteness counts as a factor of antecedent choice.

We can get the same tendency of antecedent choice in other examples with some change in referentiality:

(9) a. *John* is going to interview *Bill* [himself]. (emphatic)

  b. *John* is going to interview the winner of the next race [himself].

(10) a. It was decided that *John* and *his father* would talk with each other. But just now Harry was assigned to substitute for [him].

  b. It was decided that *John* and the winner of the next race would talk with each other. But just now Harry was

assigned to substitute for [him].

3.0   Non-obligatory PRO

In the preceding section, a rough survey has been made about the fact that personal pronouns as well as reflexives are influenced by "empathy." There is another kind of pronominal expression assumed in the field of generative grammar, PRO.[6] It is this pronominal that we are going to deal with in this section.

PRO mainly appears as the missing subject of an infinitive clause and is regarded as an empty category in Government and Binding Theory. This empty thing is classified into two groups — obligatory PRO and non-obligatory PRO.[7] The former class includes PROs such that their antecedents are uniquely determined in some obligatory way. Representatives of this class are PROs of complementary infinitive clauses following verbs such as "promise" and "persuade." Roughly speaking, the antecedent choice of obligatory PRO is determined by the lexical information of a main verb whose complement includes infinitive clause with that kind of PRO. As is stated above, antecedent of this PRO is uniquely determined and it means that the test of antecedent choice adopted in the preceding section is not applicable to this class of pronominal. From the start, there is no room for choosing, and we cannot see the influence of empathy in antecedent choice. Thus obligatory PRO is out of the scope of our present argument.

As for the other type, non-obligatory PRO, its antecedent is not always uniquely determined — that is, the choice is not obligatory. Elements in various kinds of syntactic position can be antecedents:

(11)   a . [PRO to behave himself in public] would help Bill.

  b . Mary knows that [PRO to behave herself in public] would help Bill.

  c . [PRO to behave himself in public] would help Bill's development.   [Manzini (1983)]

Chomsky, the founder of generative grammar, admits that coreference of PRO involves a number of different factors and that semantic and pragmatic considerations are needed to sort out this problem.[8] Seeing that antecedent choice is rather free for non-obligatory PRO, it is predictable that there is much room for considering factors such as empathy, and that the test of antecedent choice in the foregoing section is also applicable to this PRO. This prediction is born out in the next sub-section.

3.1　Preliminaries and Verification

Manzini (ibid.) demonstrates some cases where PRO corefers freely — that is, where non-obligatory PRO appears:

(12)　　a. A PRO in a subject sentence (co) refers freely.

　　　　b. A PRO in a sentence with a Comp (co) refers freely.

By making use of her idea, a test of the workings of empathy, similar to that adopted in the second section, is proposed here. A sample of the test is given below:

(13)　　a. *John* told *Bill* that [PRO_i to prepare himself$_i$ for the exam] would be easy.[9]

　　　　b. *John* talked with *Bill* about [how [PRO_i to improve himself$_i$]].

In the GB framework of generative grammar, "himself" in these examples is regarded as an anaphor, and must be bound in its governing category, or the minimal category containing the anaphor, its governor, and a SUBJECT accessible to it. In (13), the corresponding governing categories are the sentences within the brackets. In these local domains, "himself" is bound by PRO, and the same index is given to the binder and the bindee.[10] Through this coindexing, PRO is given the lexical features of third person singular and masculine. And this time, an antecedent for this PRO is needed which is compatible with this information. Both of the examples indicate that the possible candidates of antecedent are "John" and "Bill." Now we succeed in setting up

two candidates for antecedent choice of this empty category.

By using the testing format in (13), we will verify the influence of empathy as regards non-obligatory PRO. Let us start with the instances dealing with the factor of definiteness:

(14) a. *John* told *Bill* that [PRO to prepare himself for the exam] would be easy. (=(13 a))

   b. *John* told someone that [PRO to prepare himself for the exam] would be easy.

(15) a. John said to *Bill* that [PRO to pride himself on his self-control] was not a bad thing.

   b. *John* said to someone that [PRO to pride himself on his self-control] was not a bad thing.

[A weaker trigger of coreference than the one italicized is indicated by a broken line.]

As is expected, the same tendency of antecedent choice is observed as in the case of personal pronouns. Especially in (15), "Bill" in (a) (goal element) is preferred through pragmatic reasons when the candidates are equally possible for the antecedent of PRO, while "John" in (b) (agent element) is preferred when candidates differ in definiteness. This is a good illustration of the fact that definiteness is a crucial requirement in antecedent choice.

Next, here are the examples which differ in referentiality:

(16) a. *John* will write to Bill that [PRO to behave himself in public] would help Mary.

   b. The wisest man in the world will write to *Bill* that [PRO to behave himself in public] would help Mary.

(17) a. *John* will talk with *Bill* about [what [PRO to pride himself on]].

   b. *John* will talk with the most reliable person to be found at the meeting about [what [PRO to pride himself on]].

In (16 a), the agent is a little stronger as the trigger of co-reference, while in (16 b) referentiality changes the triggering potentiality of the agent and the goal.

All the examples show the same tendency of preferable interpretation, and designate the influence of empathy. By now, it becomes clear that empathy has much to do with the antecedent choice of all kinds of pronominals. A generalization on pronominalization is to be stated as in the following:

(18) An empathy focus (an element on which empathy is set) is preferable as the antecedent of a pronominal, if antecedent choice is free among some candidates.

4.0　Empathy and Scope

It has been argued in the preceding sections that empathy applies to pronominals. In this section, apparent counterexamples to the argument thus far developed are set forth, and a way to solve this problem is sought for in the combination of empathy with "scope"——or the domain of semantic influence.

4.1　"No" & "few" — indefinite and non-referential expressions

It is fairly easy for definite and referential expressions to maintain coreference with pronominals, and so, in reverse, it is conceivable that it is difficult for indefinite and non-referential expressions to trigger coreference. But this conception proves to be wrong when we observe the behavior of such negative items as "no" and "few." They are indefinite, and non-referential in that when they are combined with nouns, they negate the existence of referent designated by the nouns.

Examples below show that these negative items have the power to make coreference with pronominals in spite of the empathy restrictions of definiteness and referentiality:

(19)　a . No one$_i$ knew the secret. But they$_i$ knew another one.

　　　b . Few people$_i$ knew the secret. But they$_i$ knew another one.

(20)　a . *John* told *no one* that [PRO to behave himself in public] would help Mary.

　　　b . *John and Bill* talked with *few people* about [how [PRO
　　　　　to improve themselves]].
The next sub-section is dedicated to the explanation of these
apparent counterexamples against the claim of this paper.

4.2　　Scope Relations

　　　Two things should be noted about the items "no" and "few."
First, they have the lexical information of *negation* besides
indefiniteness and non-referentiality. Through the argument in
this paper, it has been ascertained that indefinite and non-
referential expressions have, to be sure, fairly weak potentiality
to be antecedents of pronominals. So the strange behavior of
"no" and "few" may be attributed to their particular lexical
property of negation. Secondly, it is a remarkable phenomenon
that these negative items have strong potentiality to make coref-
erence only when they are in argument positions of the main
predicate of a sentence. Compare (19) and (20) with the followings:
(21)　　a . *John had lunch with no one$_i$ around. They$_i$ were
　　　　　very busy.
　　　b . *John had lunch with few people$_i$ around. They$_i$ were
　　　　　very busy.
(22)　　a . *John* spoke, with no one near, about [how [PRO to
　　　　　improve himself]].
　　　b . *John and Bill* said, with few people around, that [PRO
　　　　　to behave themselves in public] would help Mary.
It is clear from the examples above that an NP with "no" or "few"
as its determiner has very weak power to trigger coreference
when it is in a non-argument position. Here are two key terms
for the account of counterexamples — negation and argument
position.

　　　Incidentally, it is known that negative items in argument
position ensure sentential negation, while these items in non-
argument position do not:

(23) I have read no books on linguistics.

    = I haven't read any books on linguistics.

(24) The mole can see with no light.

    = The mole can see without any light.

    ≒ The mole can't see with any light.   [Ota (1980)]

Taking these facts into consideration, we can tell that co-reference of negative-quantified NPs becomes easy when the negative operator takes wide scope — that is, when it takes the whole sentence as its scope. From these observations, scope relations appear as a fundamental concept in dealing with the coreference of NPs combined with quantifiers and negative operators.

Here at this point, let us assume that NPs combined with quantifiers which take wide scope are easier to be empathy foci than NPs with narrow scope quantifiers. An empathy hierarchy in relation to scope of quantifiers is stated below:

(25) Empathy Hierarchy of Scope: Given an NP with a quantifier taking wide scope and an NP with a quantifier taking narrow scope, the speaker's empathy with the former is greater than with the latter.

    Wide Scope NP > Narrow Scope NP

From this hierarchy, we can infer that the counterexamples cited above — NPs with "no" or "few" which are in argument position — can have high potentiality of maintaining coreference because they take the wide scope reading of sentential negation. Additionally, by adopting this hierarchy, we can correctly explain the coreferential relation of the example below:

(26) Everyone talked with someone about [how [PRO to keep good relations with others]].

In this case, when "everyone" takes wide scope over "someone," the former is likely to be regarded as the antecedent of PRO, and vice versa.

4.3   Existence of Expected Referent

Some people might still object to the idea that wide scope ensures the power to make coreference in the case of non-referential quantifiers, "no" and "few." Even if the speaker's attention might fall on the expression of "no one" or of "few people" by dint of wide scope, pronominals, which are fundamentally used to refer to some specific referent, might not be appropriate as the substitutive forms designating the *referent* of these expressions. It is because these expressions *negate* the existence of referent. Without referent, pronominalization would not occur.

This line of argumentation is fairly reasonable, and suggests a defect in the discussion of the foregoing sub-section. It is necessary here to see more closely the characteristics and usage of these quantifiers. Then we shall see that by applying a certain condition, the preceding argument comes to be not so far-fetched or unreasonable.

To begin with, let us consider the situations where the sentence below can be used:

(27)   No one/Few people came.

This sentence is applicable to cases where (i) not a soul (or almost no one) was seen to come, and where (ii) not even one of the members (or almost none of the members) whom the speaker had expected to come did actually come (there might be some people who actually came and whom the speaker had not expected to come). In other words, "no one" and "few people" can be used with or without the existence of expected referent. It is this difference in situation to which we will now turn.

It is predictable that the potentiality of coreference lurking in these expressions increases in proportion as the speaker strongly conceives the existence of expected referent, because the stronger is the speaker's expectation of the existence of ref-

erent, the more easily can he empathize with the referent imagined in his mind. And this prediction is born out in the following example:

(28)　　a. Bill met no one$_i$. They$_i$ were very busy.

　　　　　(Bill might have met Mary, Joan, Fred, ···)

　　　　b. ?Bill met no one$_i$. They$_i$ were very busy.

　　　　　(Those whom Bill might have met are totally unknown.)

　　[The sentences in parentheses indicate the speaker's assumption in using the corresponding sentences cited above them.]
The speaker's assumption about the existence of expected referent has much to do with the acceptability of coreferential relation between the non-referential expressions and their corresponding pronoun "they."

　　The same tendency is discernible in the case of PRO:

(29)　　a. John talked with *no one* about [how [PRO to improve himself]].[11]

　　(The speaker assumes those whom John might have talked with.)

　　　　b. ?John talked with *no one* about [how [PRO to improve himself]].

　　(The speaker does not assume the possible candidates of referent.)

Now it is obvious that not only wide scope but also the assumption of the existence of referent is crucial for the use of pronominals coreferring with these negative expressions. If these expressions are in argument positions of a main predicate and further, if they are used with some expectation of possible referent, the speaker's empathy may well be set on the *referent* conceived behind the apparently non-referential expressions. Here it becomes possible to give an answer to the objection cited at the beginning of this sub-section. By applying the condition of speaker's assumption of possible referent, the Empathy Hierarchy of Scope holds for the case of these expressions. Theoret-

ically, no referent is designated by them, but still the speaker may have a referent in his mind to be an empathy focus.

Lastly, we will consider the relation between the speaker's assumption and the coreference of these negative expressions in *non-argument* position. In this position, they have only narrow scope, and so their semantic influence on the whole sentence of which they are a part seems to be rather weak. It is not efficient for the speaker to empathize with referents designated by such trivial expressions. It is by now clear which of the two assumptions the speaker tends to conceive in using the following example:

(30)   John had lunch at the café with no one around.

    a . (Those who might have been at the café while John was there are totally unknown. It is useless to think about them.)

    b . ?(Those who might have been at the café while John was there are Tom, Fred, Bill,⋯)

Without a particular context, the main claim of (30) is that "John had lunch" rather than that "no one was around (when John had lunch at the café)." It is still less plausible that the claim lies in the question of who might have been at the café at the time when John had lunch there. In this case, "no one" takes only narrow scope, and moreover, it is very hard to assume the existence of possible referents conceived behind this expression. Then it is only natural that the speaker's empathy should rarely be set on this part of the sentence, and that judgment of the sequence of sentences below should end in unacceptability.

(31)   *John had lunch at the café with no one$_i$ around. They$_i$ were very busy.

The same way of reasoning holds for the cases of PRO:

(32)   *John* spoke, with no one near, about [how [PRO to improve himself]].

    a . (It is useless to think about those who might have been near around when John spoke.)

b. ?(Those who might have been near around at the time when John spoke are Tom, Fred, Bill, ⋯)

5.0 Summary and Conclusion

The aim of this paper has been to illustrate the expansion of empathy perspective, and in accordance with this aim, we have observed the antecedent choice of pronominals, and have obtained the generalization stated in (18).

Incidentally, it is not a mere accident that we have got this result as regards empathy, but it is compatible with our intuition. Take, for example, (5b). Two events occur in the situation described in this instance: (i) John and someone saw Mary while walking together; and (ii) one of them started to talk to her. When we hear or read the first part, we think that it describes what happened to "John," and not that it depicts the behavior of "someone" who is unknown to us. The behavior of "John" (or an empathy focus) is our main concern in this situation. So if the second part also describes what happened to "John," we can get much information about our main concern in the whole situation. It seems inevitable that we desire to get as much information as possible about our concern.

To the contrary, if the second half depicts the behavior of "someone," we fail in getting more information about our concern, and moreover, the whole situation comes to be divided into two parts — a part about "John" and the other about "someone." This type of interpretation seems to be fairly inefficient.

The same way of reasoning applies to other examples cited here in this paper. From the viewpoint of processibility and informativity, generalization (18) is nothing but an aspect of our cognitive strategy of how to interpret language in an efficient manner.

Notes

1 This paper deals with acceptability of sentences, not with grammaticality.

2 The indices guarantee the coreference of NPs in question.

3 I here adopt, as the distinction between referential and non-referential expressions, specific and descriptive expressions in Takeda (1981).

4 Reflexivization is an intrasentential matter, while pronominalization is either intrasentential or intersentential. My concern lies in the acceptability of a possible antecedent of these pro-forms, and so this problem will not be pursued here.

5 As in (8) (and also in (26)), there are cases where the most probable antecedent of a pronoun is an NP not explicitly indicated in the example. But my test is related only with the possible candidates realized on the surface form of the examples, so this problem will not be pursued.

6 "Pronominal" is the general term of PRO and pronouns in Chomsky (1981).

7 See Williams (1980) for the criteria of obligatory and non-obligatory PRO.

8 See Chomsky (ibid.) pp. 78–79.

9 This coindexing relation between PRO and "himself" is not crucial for the present argument, so the indices will be omitted from now on.

10 See Chomsky (ibid.) for definitions of syntactic notions such as governing category, binding and accessible SUBJECT.

11 "No one" can take both notional reference (as in (28)) and grammatical reference (as in (29)). See Quirk et al. (1985, 10. 35 & 50) for discussion of concord of reference.

Selected References

Chomsky, N.: *Lectures on Government and Binding,* (Foris), 1981.

Kuno, S.: *Danwano Bunpo,* (Taishukan), 1978.

————.: *Functional Syntax,* (The University of Chicago), 1987.

Manzini, M. R.: "On Control and Control Theory", *Linguistic Inquiry* 14(3), (1983), pp. 421–446.

Mohanan, K. P.: "Remarks on Control and Control Theory", *Linguistic Inquiry* 16 (4), (1985), pp. 637–648.

Ota, A.: *Hiteino Imi,* (Taishukan), 1980.

Quirk, R., S. Greenbaum., G. Leech., & J. Svartvik.: *A Comprehensive Grammar of the English Language,* (Longman Group), 1985.

Takeda, S.: *Reference and Noun Phrases,* (Liber Press), 1981.

Williams, E.: "Predication", *Linguistic Inquiry* 11(1), (1980), pp. 203–238.

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〔和文要旨〕

視点と代名詞類の同一指示について

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　視点という概念は，様々な言語事象の説明に有効である。このことは，久野暲氏の一連の著作によって知られるところである。例えば，彼は再帰代名詞の使用が，彼の提案する視点制約によって制限を受けることを例証している。

　ここでは，この概念が再帰代名詞だけでなく代名詞類全般に関連するということを，代名詞の先行詞選択の問題をめぐって考えてみる。つまりこの論文の目的は，視点という機能的概念の適用範囲を拡大させることである。この概念は，生成文法の統率・束縛理論で想定されている空の代名詞 PRO にまでも影響を及ぼしているのである。

　後半では，本論の主張に対する一見反例と思われる例が提示されるが，視点導入に関する要件を新しく加えることによって問題の解決が図られる。そして最後には，この論で得た結果が効率的な言語使用に即した自然な結果であることを述べる。