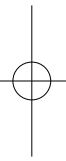


Peculiar Effects of So-Called Picture Noun Phrase and Emotional Noun Phrase: A Key to the Solution to Backward Binding

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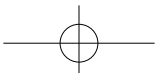
1. Introduction



This paper examines the possibility that the phenomenon often referred to as backward binding is not “backward” by showing that two kinds of nouns are compatible with reflexives and there are no direct anaphoric relationships. One is Picture Noun Phrase (PNP), which has been said to be often involved in the constructions of backward binding. The other one, which has never been paid much attention to, is Emotional Noun Phrase (ENP). These nouns may have a role in the grammaticality judgment of backward binding, so it is meaningful to investigate what properties make them different from other nouns. They exhibit the phenomena that cannot be observed in the constructions where nouns other than these are used. From this fact, it would be concluded that backward binding is one of the particular cases that PNP and ENP with reflexives make possible.

To begin with, this chapter gives the background of backward binding. In generative grammar, *Binding Theory* was developed by Chomsky to capture in a unified way how different kinds of nouns would behave in a sentence. Chomsky (1981) formalized *Binding Conditions* as follows:

Binding Conditions

- A) An anaphor must be bound in its binding domain.
 - B) A pronoun must be free in its binding domain.
 - C) An R-expression must be free.
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In this paper, only condition A matters. Simply put, condition A says that an anaphor (reflexive pronouns and reciprocal pronouns) must have its antecedent placed in a structurally higher position. For example, as (1) shows, an antecedent usually precedes a reflexive. A subject is assumed to be the highest constituent in a sentence, so (1) is predicted to be grammatical as expected by native speakers.

- (1) John hates himself.¹⁾

The reflexive *himself* is used as an object referring to its antecedent *John*. The order is usually antecedents-reflexives in the viewpoint of linearity. Contrary to the usual case, reflexives can precede their antecedents under some circumstances. (2) is an example of such a case.

- (2) The picture of himself remains still vivid in John's mind.

This phenomenon is called backward binding, once raised as a counter-example to condition A. Subsequent works concluded that sentences such as (2) were not problematic in generative grammar because condition A would only apply to the sentence where anaphors appeared as an argument of a verb²⁾. Backward binding was then put aside as an exceptional case. It seems beneficial, however, that we tackle the issue from another point of view because the order is still weird as compared to the usual antecedents-reflexives order.

This paper consists of 6 chapters. Chapter 2 describes the previous research on PNP and the assumptions related to backward binding. Chapter 3 introduces a new category that I will call Emotional Noun Phrase (ENP), and explain why PNP and ENP are special. Chapter 4 offers three types of constructions that are not allowed with nouns other than these two groups of nouns. They are subjects-verbs disagreement, comparative, and dangling participial constructions. Chapter 5 considers a possibility that backward binding is not “backward”. Chapter 6 summarizes the points presented in this paper.

2. Previous research

This chapter briefly looks at previous studies of Picture Noun Phrase

(PNP) and backward binding. The first section introduces what Picture Noun Phrase (PNP) is, and one famous work that treats this category. The next section offers the previously assumed conditions related to backward binding, and I will show all of them are not so important.

2.1. Picture Noun Phrase (PNP)

Some researchers, such as Kasai (1997), said that so-called Picture Noun Phrase (PNP) would often be involved in backward binding. Oki (1988)³ listed some members of PNP.

- (3) description, statement, composition, report, tale, claim, drawing, painting, etching, photograph, sketch, story, column, satire, book, diary, letter, text, article, essay, sentence, paragraph, chapter, picture.

This category is characterized by showing subjective things objectively. For example, the function of *picture* is to make it possible for people to see themselves in the same way as they do others.

Although the fact that PNP is used in backward binding is often noted, very few works discuss the characteristics of PNP. Kuno's work (1987), a famous piece of literature often cited on the effect of Point-of-View, discussed two points about PNP. One was when extraction from PNP would be possible. For example, he used the sentences below to illustrate this phenomenon.

- (4) a. What did you buy a book on?
 b. Who did you see a picture of?
 c. What have you bought a book about?
 d. Which book did you read a review of?
- (5) a. *What did you lose a book on?
 b. *Who did they destroy pictures of?
 c. *Who did you see a book about?
 d. *What did John burn a large green book about?

The other was whether reflexives or pronouns would be used with PNP depending on semantic aspects of constructions. He cited examples like

these in (6) and (7).

- (6) a. John saw a picture of himself in the morning paper.
 b. ??John saw a picture of him in the morning paper.
- (7) a. ??John hasn't found out about that horrible book about himself yet.
 b. John hasn't found out about that horrible book about him yet.

We will not get into these matters in depth. It is enough here to say that his discovery was based on the semantic or pragmatic effects that PNP has. His work was indeed valuable in that he examined the relationships between PNP and reflexives or pronouns, but that seems not to be enough. It lacks the inspection of whether PNP is a special group of nouns for some specific reasons.

2.2. Previous assumptions on backward binding

It was said that backward binding had some semantic constraints. They are as follows:

- (I). Subjects don't have intentions
- (II). Verbs are psychological
- (III). As a whole, sentences mean psychological states or changes

Among these assumptions, (II) was considered to be the most fundamental key to the constructions of backward binding⁴. Most works on backward binding focused on the behavior of so-called Psychological Verbs. They are exemplified by verbs such as *surprise*, *amaze*, *astonish*, and *depress*.

Contrary to the assumptions above, Ito (2021) demonstrated that they were not so important in backward binding by using the example below.

- (8) The picture of himself remains still missing somewhere in the house of John's father.

There are three possible antecedents that the reflexive *himself* can refer to: namely *John*, *John's father*, or someone else⁵. This sentence doesn't use a typical Psychological Verb, nor does it mean any psychological

states or changes. Only (I) seems to be met in this sentence. I will show, however, that (I) does not directly affect the grammaticality judgment of backward binding itself. Instead, (I) is deducible from the fact that nouns with intentions cannot be associated with reflexives after all, so as a result, only some kinds of nouns that can be combined with reflexives are used in backward binding. This point will be more clarified in section 3.2., where I talk about a specific schema.

3. Special groups of nouns: PNP and ENP.

In this chapter, I will first introduce a new category that is similar to PNP. It is a group of nouns that express feelings or emotions. Thus, I will call it Emotional Noun Phrase (ENP). Some members are listed below.

- (9) sadness, angriness, kindness, happiness, anxiety, depression, shame, laziness, craziness, joy, doubt, hope, desire, belief,

This category does not seem to have established its status independently before⁶. As we see in chapter 4, PNP and ENP show very similar effects with the extent to which sentences are acceptable a little varying. A few remarks on these categories are made in the following two sections to ensure that they are special enough to establish their own status.

3.1. Semantic property

It has already been mentioned in chapter 2 that PNP is often used in backward binding. The reason seems to be that PNP makes it possible for people to look at something that cannot be usually observed, and that many researchers think backward binding also involves some flavor of introspection as (III) says. If this semantic aspect is considered to play some role in backward binding, then it is reasonable to assume that any nouns that have introspective meanings can also be used in the constructions. There are no plausible reasons to restrict our attention only to PNP. ENP is similar to PNP in this respect and allows the constructions of backward binding.

- (10) a. The sadness in himself caused John to be lost at words.
 b. The anger in herself kept Mary from doing anything.
 c. The kindness in himself always keeps John confident.

This fact has not been mentioned before, and these two groups of nouns show peculiar constructions, which we will see in chapter 4.

3.2. Noun+Preposition+Reflexive schema

Before talking about what constructions PNP and ENP make possible, it is worth noting one semantic peculiarity that only PNP and ENP share. They seem to be the only groups of nouns that permit the schema of Noun+Preposition+Reflexive. Other nouns are odds with this schema.

- (11) a. *Friends of myself
 b. *Money of himself
 c. *Family of myself

Note that the emphatic use of reflexives and idiomatic expressions such as *by oneself* are excluded. They can be added to any nouns.

- (12) a. I myself do it.
 b. He overcame these difficulties by himself.

PNP and ENP can be used in the schema with reflexives replaced by other nouns.

- (13) a. A book on the American history.
 b. The kindness in people.

The fact that only PNP and ENP can be used in this schema confirms my idea that they are different from other nouns.

4. Peculiar constructions

PNP and ENP exhibit some peculiar constructions that are not allowed with nouns other than them. Three phenomena are described below: subjects-verbs disagreement, comparative, and dangling participial constructions. Some of the examples used in this chapter can be

seen as backward binding as well, so these constructions are likely to share some functions.

4.1. Subjects-verbs disagreement

In English verbs in present tense must be conjugated. They must agree with the head noun in a sentence as an example shows below.

(14) The book that John bought a few days ago is interesting.

The book is the head subject in this case, so the verb *be* is conjugated to meet the agreement requirement. It seems impossible at first glance that verbs agree with something other than head nouns. Such a case could be observed when PNP or ENP is used with reflexives at the same time.

- (15)⁷⁾ a. The picture of themselves are marvelous
 b. The picture of themselves is marvelous.
 c. The sadness in themselves seem to reach the limit.
 d. The sadness in themselves seems to reach the limit.

Only (15b) and (15d) should be grammatical, but a native speaker said (15a) and (15c) seemed also acceptable with the assumption that it is obvious who the reflexives refer to.

It is worth noting that the problem lies not in the fact that there are two choices as to the forms of the verbs, but in the situation where the noun after the preposition is a candidate for the agreement relationship. It is possible that verbs are inflected in two ways.

- (16) a. Flying airplanes are dangerous.
 b. Flying airplanes is dangerous.

(16a) means that airplanes that are flying are dangerous. On the other hand, (16b) says it is dangerous to fly airplanes. *Flying* in (16a) is a present participle that has a function similar to that of adjectives. It is used in (16b) as a gerund. The difference between (15) and (16) is apparent. In the examples of (16), the word *Flying* is used in different ways, so it is natural that we have two choices as to the forms of the main verb. In the

sentences of (15), however, the subject *The picture of themselves* or *The sadness in themselves* is used in the same way in each pair. In addition to this fact, such an agreement relationship cannot be seen if we put nouns other than reflexives after PNP or ENP.

- (17) a. *The book on animals are interesting.
 b. The book on animals is interesting.

Although the structure in (15) and (17) seems quite similar, only (15) is acceptable. From these observations above, we reach the conclusion that the combination of PNP or ENP with reflexives gives rise to a special agreement relationship.

4.2. Comparative

If we compare two things, they must share a same status. One of the examples below is such a sentence that students in Japan who learn English often make.

- (18) a. The population of China is bigger than that of Japan.
 b. *The population of China is bigger than Japan.

In (18), what is compared is *the population*, so the demonstrative pronoun *that* is inserted in (18a) to refer to the population in the case of Japan. (18b) is strange at first because *the population* is compared with *Japan* itself. This requirement is weakened when PNP or ENP with reflexives is used as a subject.

- (19) a. The picture of himself seems bigger to John than that of Mary.
 b. The picture of himself seems bigger than John really is.
 c. The kindness in himself seems greater to John than that of Mary.
 d. The kindness in himself seems greater today than John usually is.

(19a) and (19c) are assumed to be correct in terms of the traditional grammar. The difference appears in (19b) and (19d). For example, what

(19b) conveys is that John in the picture seems bigger than he really is. Such an interpretation seems impossible when PNP or ENP with nouns other than reflexives is used.

(20) Your books on foods are harder than those of mine.

This sentence reads only in the sense that your books that feature foods are more difficult than the books that I have, not that foods that your books specialize on are harder than foods that I have. Despite the fact that sentences in (19) and (20) hire one member of PNP as a subject, the degree to which such an interpretation is acceptable changes dramatically.

Note that this acceptability difference is not caused by the word *book*, as is clear from the example below that puts *book* as a subject.

(21) The book on himself is more interesting than John really is.

Both (20) and (21) use the word *book*, but only (21) permits the intended interpretation. It is fair to say that PNP and ENP with reflexives make such a comparative relationship possible.

4.3. Dangling participial constructions

Participial constructions can be made under some conditions. Basically, verbs are turned into their present/past participle forms depending on the relationship with the shared subjects. Then the conjunction and the subject in the adverbial clause are deleted. (22b) is a usual case made from (22a).

- (22) a. Because I was taken by surprise, I couldn't say any single word.
 b. Taken by surprise, I couldn't say any single word.

Dangling participial constructions are peculiar in that although the subject in the adverbial clause is different from that in the main clause, it is deleted⁸. They are so rare that we don't often encounter them. (23b) is an example of the construction.

- (23) a. Hanged on the wall, the picture of himself seems cool to

John.

- b. ??Playing with many dogs in the park, the picture of himself seems happy to John.

No one can imagine the situation where the picture itself plays with many dogs, so there is no relationship established between *the picture* and *playing*.

It is worth noting that (23b) is still marginal, but much better than (24b).

- (24) a. The picture of himself always brings back good memories to John, making him feel happy to reflect on the past.
 b. *The picture of himself always brings back good memories to John, feeling happy to reflect on the past.

The difference between (23b) and (24b) is whether *John* in the picture is the very man who does the action or has the emotion in the real world at the moment. The marginal sentence of (23b) is read in the way John in the picture plays with many dogs in the park, having to do with what he does in the real. The interpretation in (24b) could be that John in the picture is spiritually distinguished from the man who actually feels happy. The degree of acceptability increases when ENP is used with reflexives.

- (25) The laziness in herself has often been noted, forced to resign from the job Mary was devoted to.

It seems apparent why ENP makes this construction more acceptable than PNP. (25) implies that the laziness that eventually forces Mary to resign from the job is her nature, and it is difficult to change one's personality. *Herself* and *Mary*, then, seem to refer to exactly the same person at the moment, which could be the reason for the grammaticality judgment of (25).

It remains to be seen, however, whether such a distinction is the only factor involved in the grammaticality judgment of dangling participial constructions. Given that this construction type is seldom seen and usually regarded as unacceptable, it isn't exaggerating to say that PNP and ENP with reflexives are partly responsible for the grammaticality

judgment, hence the peculiar function of them.

5. The relationship between these nouns and backward binding.

From the observations made in chapter 4, I will consider the possibility that backward binding is not actually “backward”⁹). As the examples in (15) show, reflexives can appear without their antecedents in a sentence if it is apparent who they refer to. Consequently, reflexives and pronouns look the same at the syntactic level. Either of them can be used in a sentence, but there is a semantic difference between them. Kuno (1987) explained this point by using his examples below.

- (26)
- a. John pulled the blanket over him.
 - b. John pulled the blanket over himself.
 - c. John hid the book behind him.
 - d. John hid the book behind himself.
 - e. John pulled Mary toward him.
 - f. John pulled Mary toward himself.

The contrast in (26e) and (26f), for example, is that (26f) involves the action more emotionally. John pulls Mary both physically and mentally. In addition to the fact that (26e) doesn’t involve such an interpretation, it is worth noting that the pronoun *him* can refer to someone other than the surface antecedent *John*. Reflexives have more effects than pronouns emphasizing the existence of who they refer to. From this fact, it is likely that one of the functions that reflexives have is to make people’s hidden existence more conspicuous¹⁰). Both PNP and ENP are nouns that often entail people in some sense, and their existence may be realized with reflexives. If this is the case, the phenomena mentioned in chapter 4 are to be solved. Not only head nouns but also those who reflexives refer to are treated as subjects. As an example, (19) is irregular in that there are two possible choices about what is compared. Head nouns can be no doubt compared. In addition, reflexives make people’s existence outstanding, so they are also permitted to be compared. This function is characteristic of reflexives, different from pronouns¹¹). In the case of backward binding, there might be no direct anaphoric relation-

ships between surface antecedents and reflexives. The combination of PNP or ENP with reflexives can make this construction possible as well as those mentioned in chapter 4. It follows that surface antecedents are not “antecedents” but have a role in strengthening the referentiality. This possibility deserves investigation in future research.

6. Conclusion

We have investigated so far what makes PNP and ENP special. They are different from other kinds of nouns in some respects. At the semantic level, they have some flavor of introspective meanings, and permit the schema of Noun+Preposition+Reflexive. At the syntactic level, they make possible three types of constructions: namely subjects-verbs disagreement, comparative, and dangling participial constructions, all of which are rare or impossible if nouns other than reflexives are used with PNP or ENP. The reason is that they emphasize people’s hidden existence more conspicuous, and as a result, those who they refer to can be seen as subjects. It suggests that PNP and ENP are responsible for the grammaticality judgment of backward binding as well, and it can be categorized as one of the particular constructions that PNP and ENP allow. The surface antecedent has a role in strengthening the referentiality, but there are no direct anaphoric relationships.

Some problems remain to be solved. One of them is whether reciprocals behave in the same way as reflexives. Because reciprocals can also be used as possessives, they will likely show further peculiarity. For now, it is fair, at least to say that PNP and ENP are compatible with reflexives, and this combination is partly responsible for some particular constructions including backward binding.

ACKNOWLEDGMENTS

This work has been supported by three native speakers, who judged whether each of the sentences I made was acceptable or not. They gave me many suggestive comments, and they were very helpful. I am deeply grateful to all of them.

NOTES

- 1) Examples are all made by the author unless otherwise noted.
- 2) The most influential work on this claim is Reinhart and Reuland (1993).
- 3) He distinguished some of the members from others according to their corresponding verbs. This distinction isn't so important in my idea, so all of them are treated similarly here.
- 4) In fact, backward binding was first assumed to be the problem of so-called Psychological Verbs, so almost all of the works on this construction were about how to treat this type of verbs in terms of generative grammar, especially hierarchical structures.
- 5) One native speaker says that the most plausible interpretation is the situation where the reflexive himself refers to someone else other than those mentioned in the sentence.
- 6) Sugiura (2006) introduces a similar category that he calls 'emotion' nouns. It seems dubious, however, that such a category stands alone only on account of his discovery that its appositive *that* use is different from that of others. Not only 'emotion' nouns but also many other kinds of nouns permit appositive *that* clauses. In addition, my term ENP covers a wider range of nouns. Some of them are considered to belong to another group in his paper. Therefore, it is not too much to say that ENP can establish its own status for the reasons proposed in this paper.
- 7) It is true that these examples are not grammatical, but the point is that they are "acceptable", not grammatical.
- 8) If the subject in the adverbial clause is different from that in the main clause, it should be left there. An example below is such a case, often referred to as absolute participial constructions.
 - (i) There being no buses left, I had to walk to the office.
 This type is characterized by some conventional expressions such as *all things considered*, *weather permitting*, and *all things being equal*.
- 9) There are some researchers who claim that English has no backward anaphora. My idea is almost the same, but their claims are all based on the data using pronouns, not reflexives. Therefore, I will not discuss their validity here and will leave it to future research.
- 10) This idea is similar to the emphatic use of reflexives. The difference is that the emphatic use necessarily requires the antecedent to be placed near the reflexive. My claim is that reflexives make people's hidden existence more conspicuous even though the antecedents are not realized in a sentence.
- 11) If PNP or ENP with possessive pronouns is used, such an idiosyncrasy doesn't appear.
 - (i) His picture is bigger than John really is.
 A native speaker says the most conceivable interpretation is that his picture itself is compared with John.

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