



Contextual anaphora relations in English nominal ellipsis*

Seulkee Park^{a***} · Jong-Bok Kim^{a***} · Eunjeong Oh^b
(Kyung Hee University^a · Sangmyung University^b)

Park, Seulkee, Jong-Bok Kim, and Eunjeong Oh. 2024. Contextual anaphora relations in English nominal ellipsis. *Linguistic Research* 41(1): 65-90. The nominal (often called N') ellipsis construction in English includes an understood material other than the remaining determiner. This elliptical NP tends to occur in contexts where its antecedent exhibits a similar or parallel structure. Popular analyses have derived such a construction with the postulation of the unexpressed materials and deletion operations, referring to the linguistic antecedent. However, our empirical investigation reveals a significant number of attested examples where the understood head noun refers to a discourse correlate, challenging such structure-based and movement operations. In this paper, based on such an empirical observation, we suggest a construction based analysis that allows us to refer to the inherently anaphoric (or deictic) or contextually anaphoric correlate of the understood head. This direction brings about a wider coverage of the empirical data. (Kyung Hee University · Sangmyung University)

Keywords nominal ellipsis, N'-ellipsis, deep anaphors, pronominal, contextual anaphora

1. Introduction

Nominal or N'-ellipsis has been a subject of extensive theoretical discourse, incorporating diverse forms of structural distributions. The construction is characterized by the absence of the head noun or more than the element, while still retaining its determiner or pronominal modifiers in the elliptical NP domain (Sag 1976; Sag and Hankamer 1984; Merchant 2001, among others). This elliptical NP tends to occur where its antecedent

* We would like to express our gratitude to the audiences at the 2023 *Western Conference on Linguistics* (WECOL 2023) and the 17th annual *Arizona Linguistics Circle* (ALC 17) for their helpful comments. We also appreciate the anonymous reviewers for their constructive feedback. Errors, if any, are attributed to the authors. This work was supported by the Ministry of Education of the Republic of Korea and the National Research Foundation of Korea (NRF-2022S1A5A2A03052578).

** First author

*** Corresponding author

displays a parallel or, at the very least, a similar structural configuration, as exemplified in (1):¹

- (1) a. Susan likes her big red fish with a stripe and Tom likes **his** with spots.
 b. This copy is defective but **the other two** are fine. (Günther 2012: 9)

In (1a), the meaning of the possessive remnant *his* is resolved by referring to its antecedent NP *her big red fish*. In a similar manner, the numeral remnant *the other two* in (1b) misses its head, but refers to the singular correlate *copy*.

In order to analyze the unexpressed expressions including the head noun, previous studies have debated whether the noun ellipsis is derived by postulating the implicit materials and deleting them. In a similar manner, within the Minimalist Framework, Saab (2018) suggests that the nominal head undergoes head movement to a functional head within the DP. However, there seems to be empirical data in which the unexpressed materials cannot be reconstructed from the linguistic antecedent or be replaced by pronominal forms like *one(s)*. The scopal ambiguity also arises when determining the extent to which elided parts scope over the noun phrase. Consider the following examples:

- (2) a. Handspinners will pay \$6 to \$12 per pound for prime raw fleeces, with natural colored wools commanding higher prices than **white**.
 b. More than 80 Asian street food vendors, including **several** from Orange County, will participate, and about 70 local merchandise vendors will showcase and sell their wares.

In instances denoted by (2a) and (2b), if any elements of pronominal adjectives and a head noun are repeated anaphorically from the underlined antecedent NP within the given context, ellipsis can only grammatically occur with differentially expressed pronominal adjectives or quantifiers. In other words, in (2a), *white* refers specifically to ‘white colored wools,’ rather than the limited meaning with the head noun as ‘white wools.’ In the same manner in (2b), the remaining element *several* is intended to describe ‘several Asian street food vendors,’ not just a generic quantity of ‘several vendors.’ In

¹ Throughout this paper, the antecedent NP of the understood head noun is underlined in examples, and the bold-faced element indicates the remnant in ellipsis site.

terms of the scope of ellipsis, the way the anaphoric antecedent is retrieved within the elliptical NP domain can distinguish N'-ellipsis from noun phrase ellipsis (NPE), exemplified in (2).² The difference between N'-ellipsis and NPE is that the former exclusively elides the head noun without any prenominal determiners or modifiers.

Another potential problem relates to the structure-based deletion analysis in that the approach is based solely on explicitly stated or uttered antecedent. Particularly in instances where discourse between speaker and hearer relies on a shared extralinguistic experience, the recovery of a implicit head noun within the nominal expression may provoke issues. For example, the instance *The kids are at grandma's* can be readily understood within the context of a non-linguistic antecedent or situation, wherein *grandma's* is interpreted as referring to her house or place.

This study examines key distributional properties of the N'-ellipsis, focusing on the types of the licensed remnant which is typically a determiner or quantifier, antecedent of the understood head noun, and so forth. We then review previous analyses based on move-and-delete operations with the introduction of syntactic structures for the understood material at the ellipsis site. To verify the licensing conditions for the ellipsis suggested by the previous literature, we investigate authentic English data extracted from COCA (Corpus of Contemporary American English) and BNC (British National Corpus) corpora. Based on our investigation of the corpus dataset, we aim to offer the grammar of N-bar ellipsis that can refer to discourse contexts, emphasizing the contextual restrictions implied by the construction in discourse.

2. Basic profile of the N-bar ellipsis

2.1 Possible remnants in the N-bar ellipsis

In N-bar ellipsis, the typical remnant is a determiner or quantifier. Diverse categories of determiners and quantifiers can appear without the accompanying head noun (Günther 2013; Khullar et al. 2020, among others):

(3) a. Oh, and a few trick animals. You'd have to use **those**. [demonstrative]

² According to Merchant (2008)'s proposal in the 'MaxElide' constraint, the most extensive deletable constituent governed by the 'Parallelism Domain (PD)' undergoes ellipsis.

- b. I drove my friend's car today. **My** was at the workshop. [possessive]
- c. After looking at all the cars in the showroom, he decided to buy **Alice's**.
[genitive 's]
- d. I will just take a minute or **two**. [cardinal numeral]
- e. Do you have coffee? In the kitchen. I will make **some** for us. [quantifier]

As illustrated in the examples in (3), a demonstrative (*these, those, ...*), possessive (*my, your, ...*), genitive 's, or cardinal numeral determiner (*one, two, ...*), as well as a quantifier (*all, both, some, any, ...*), can serve as a potential candidate for the remnant without a head noun in the domain.

To discern nominal ellipsis, comparisons must be made with environments for *one*-insertion, which is comparable to a head noun element specified by the licensors in the ellipsis domain. Such licensors include discourse-referential adjectives, such as *same, next, last, following, previous*, or ordinal numerals (*the first, second, ...*), an interrogative determiner *which*, or superlatives, which are distinct from property-denoting ones. The following are some illustrative examples:

- (4) a. If you die during a round, you stay dead until **the next** (*one*) begins.
[adjective]
- b. India hopes to become just the fourth nation to successfully land a probe on the Moon and **the first** (*one*) to land a probe near the lunar south pole.
[ordinal numeral]
- c. Like any good poker player, they are checking over their hand seeing which cards to play and **which** (*one*) to discard. [interrogative determiner]
- d. We had many gongs, but three was all we could pack, fleeing the war.
The largest (*one*) is called Knah. [superlative]

Moreover, in conjunction with one of these licensors, noun-modifying elements, including adjectives, participles, or cardinal and ordinal numerals, may optionally appear.³

- (5) This castle is Ireland's **best**. [possessive determiner + adjectival modifier]

³ The noun-modifying numerals can be distinct from the one functioning as a determiner.

However, note that a definite article *the*, an indefinite article *a(n)*, and a quantifier *every* or *no* do not license the ellipsis in NPs (Lobeck 1993, 1995; Saito et al. 2008, a.o.).

- (6) a. *I really liked this *book* and I know you'll like [NP the [*e*]] too.
 b. *I'd love to spend a few *weeks* in Hawaii and I know you'd like to spend at least [NP a [*e*]] there too.
 c. *The committee endorses every *bill the president proposes* and the advisors approve just about [NP every [*e*]] too.
 d. *The committee endorses every *bill the president proposes* and the advisors approve just about [NP no [*e*]] too. (Lobeck and Sleeman 2017: (43))

It is important to observe that the definite article *the* in (6a), which does not license the ellipsis, is constrained to appear solely with *one*-insertion (e.g., *the one*). This stands in contrast to the indefinite article *a(n)* in (6b), which neither stand alone nor occur with *one*-insertion.⁴

2.2 Surface and deep anaphoric properties

Assuming N-bar ellipsis as a type of elliptical constructions, one immediate question concerns if it is a deep or surface anaphora. Hankamer and Sag (1976) put forward two fundamental types of anaphoric process, namely deep and surface anaphora. The resolution of an anaphoric relation at a pragmatic level in discourse characterizes 'deep' anaphora which can be resolved by a salient discourse antecedent. Meanwhile, 'surface' anaphora occurs when the anaphoric relation is determined by its coherent linguistic antecedent, exemplified by phenomena such as verb phrase ellipsis (VPE). Unlike surface anaphors, deep anaphors thus lack a coherent linguistic antecedent that refers to the discourse material for interpretation. An illustrative example of deep anaphora is provided by the phenomenon of *do it* anaphora in (7a):

- (7) [Hankamer attempts to stuff a 9-inch ball through a 6-inch hoop]

4 When a quantifier *every* or *no* is used with *one*-insertion, it takes its own particular form, such as *everyone* or *none*, which we are not dealing with in this research.

- a. It's not clear that you'll be able to **do it**.
- b. *It's not clear that you'll be able to _____. (Hankamer and Sag 1976: 392)

In (7a), the given context offers appropriate antecedent for the interpretation of *do it*, which refers to a stuffing (a ball) gesture as an anaphoric expression. On the other hand, with the same context, reconstructing a specific antecedent for the elided verb phrase in (7b) may pose challenges.

With regard to nominal ellipsis in previous literature, the surface/deep distinction was discussed, offering two different levels of interpretation by considering PF-deletion and a null proform (or an abstract null noun) (Merchant 2014; Wurmbrand 2016; Saab 2018, a.o.). Particularly, Wurmbrand (2016) suggests that nominal ellipsis could be either a surface or deep anaphor, depending on contextual settings:

- (8) This boy is the only **boy one** who is nice. [boy → one]
(Wurmbrand 2016: (7a))
- (9) [Context: There are a group of women and one boy]
 - a. #This boy is the only **boy one** who is nice.
 - b. This boy is **the only person** $\emptyset_{[+ANIM]}$ who is nice. (Wurmbrand 2016: (8))

When no specific context is suggested, as in (8), surface ellipsis in NP involves a PF-deletion of an N, NP, or nP when a parallel antecedent is present. In this case, the elided element contains a head noun in the syntactic derivation, contributing to its interpretation. However, in a situation described in (9), where there exists only one boy, the interpretation associated with N(P) ellipsis in (9a) is understood infelicitously due to the comparison set suggested by *the only* which does not include any boys in the group. Rather, as argued by Merchant (2014) in (9b), such context can be construed as deep ellipsis, which entails an abstract null noun specified as an animate or human entity, with the interpretation like 'the only person.'

Furthermore, if nominal ellipsis exhibits apparent syntactic mismatches between ellipsis-antecedent relations or involves a non-linguistic (exophoric) antecedent, such incongruent relations may require consideration of deep anaphora as well as surface anaphora. Attested data show us that N'-ellipsis could be context-dependent:

- (10) a. The strongest earthquake in the United States was a magnitude 9.2. It struck Alaska in 1964. **The strongest** in the world was a magnitude 9.5, which struck Chile in 1960. (2001 NEWS)
- b. RIVERA: I -- I guess, you know, adultery is a tough thing in any family. When it's adultery with a member of the same sex, I can't imagine. They must be very confused. Is that accurate?
COLLEEN: Confused and they don't understand why Daddy left. **My oldest** is afraid of him. **My youngest** loves him. (1992 SPOK)

As illustrated in these examples, when ellipsis lies beyond the scope of the putative source (or it refers to extra-linguistic antecedent), the internal structure for interpretation is considered to be inherently unlinked (Thompson 2014). In other words, when the surface anaphor operates within specific constraints concerning parallel structures between ellipsis and its antecedent, it is linguistically controlled. However, N'-ellipsis could be pragmatically controlled, allowing anaphoric relations to extend beyond the restrictions of utterances.

2.3 Endophoric and exophoric antecedents

Most of the noun-modifying determiners or quantifiers in the elliptical NPs can overtly refer anaphorically to their antecedents that precede the remnants (Günther 2013).⁵ Lobeck and Sleeman (2017) propose that elliptical NPs can precede their antecedent NPs only when they occur in a subordinate structure.

- (11) a. Each *student* work up early and all [e] saw the sunrise.
b. *All [e] saw the sunrise, and each *student* woke up early.
- (12) a. Each *student* woke up early because all [e] wanted to see the sunrise.
b. Because all [e] wanted to see the sunrise, each *student* woke up early.
(Lobeck and Sleeman 2017: 2)

5 In our research, we do not consider cases where two coordinated modifiers occur with the same head noun to share an ellipsis site, as exemplified in the following example:

(i) I want [NP a red and yellow hat]. (Khullar et al. 2020: 36)

According to Lobeck and Sleeman (2017), N'-ellipsis may violate Complex NP Constraint (CNPC) and Coordinate Structure Constraint (CSC), both of which incorporate the antecedent within the ellipsis site:

(13) a. Most people liked Mary's presentation, but I also talked to [NP a number of people who didn't like Sue's [e]].

b. [John read Mary's book] and [she read his [e]].

(Lobeck and Sleeman 2017: (8)-(9))

However, when the remnant involves complex NP island, Antecedent-Contained Deletion (ACD) may present a structural problem of the ellipsis site. Specifically, if the head noun undergoes movement and deletion to yield the surface form, ACD may give rise to an infinite regress reading within complex NP islands, as illustrated in the following attested examples:

(14) a. They detail a bunch of [NP Romney's positions on surveillance, detention and drone strikes [CP that just so happen to match [NP Obama's]]].
(COCA 2012 BLOG)

a'. They detail a bunch of Romney's positions on surveillance, detention and drone strikes that just so happen to match Obama's positions on surveillance, detention and drone strikes that just so happen to match Obama's ...

Cataphoric cases may also be affected by movement operations of Backward Anaphora Constraint (BAC) violating the binding constraints, as in pronouns (see Ross 1986).

(15) a. Obama's is not your grandfather's isolationism. (COCA 2010 ACAD)

b. Accounts like Jeremy Seabrook's in *Working Class Childhood* see in the material affection displayed towards children of *our* and **more recent generations**, ... (BNC EFS)

In particular in (15b), since linear order is a factor in Binding Condition B, it requires a pronoun to follow its antecedent for a possible coreferential interpretation. In contrast

to endophoric cases, certain remnants lack a linguistic antecedent but instead refer to an exophoric antecedent based on the situational or gesturing context.

- (16) a. Let's party at **Sam's** (= *Sam's place of stay*) this Friday.
(Khullar et al. 2020: 36)
- b. Everyone has died away from me, and the **worst** (= *the worst moment/situation*) was my son, in a car falling through the air, falling onto rocks - he called to me in those last seconds, Dad... (COCA 2012 FIC)
- c. I will tell you now... the damned bullets they go now toward **my** (= *my heart/body/side*). (COCA 2006 MOV)

Khullar et al. (2020) note that exophoric cases can correspond to the non-coherent noun ellipsis cases since the ones do not contribute to any contextual coherence. The identification of an exophoric antecedent for the elliptical NP can be evidenced by certain idiomatic expressions:

- (17) a. I couldn't give a monkey's (= care about), whether most people do ok in life. (COCA 2013 MOV)
- b. I think feminism may be dying, but it has not gasped **its last** <breath>. I wish it were dead. (COCA 1992 NEWS)

In (17a), the wavy-underlined VP *give a monkey's* stands alone, with the object lacking its head noun. The anticipated structure for this form, which includes a genitive determiner 's, requires a noun serving as its complement; however, it can be observed that the form is used as a fixed expression. Moreover, in (17b), the unexpressed head noun 'breath' is inferred from the verb *gasped* but also from contextual lexical elements such as *dying* or *dead*.

2.4 Information structural focus

According to the literature (Sleeman 1996; Günther 2012, a.o.), in elliptical NPs, comparative or superlative adjectival modifiers often show a contrastive focus relationship

with the antecedent NPs.

- (18) a. I like strong tea. I suppose **weak** is better for you.
b. Which last longer, the curved rods or the straight rods? **The straight** are less likely to break. (Bouchard 2002: 225)

In (18a), the adjectival remnant *weak* exhibits a contrast with an adjectival modifier in the antecedent NP *strong tea*, in which the relation shows quite a sharp contrast.⁶ Moreover, in the example (18b), a typical comparison between two different forms of rods, rather than a sharp contrast, is illustrated with attributive adjectival modifiers within the elliptical and antecedent NPs.

In addition, Sleeman (1996) and Bouchard (2002) argue that elliptical NPs need to be licensed by ‘partitivity,’ wherein the referents of the elliptical NPs are construed as subsets of the set introduced by the antecedent.

- (19) ... and two stars, **a red, a white**, shooting down the dark tunnel of road between the hedges. (Günther 2012: 295)

Such partitive and contrastive N’-ellipsis cases satisfy an information-structural focus condition proposed by Corver and Van Koppen (2005):

- (20) Focus Condition on nominal ellipsis:
Noun ellipsis can take place when focus is overtly expressed in the remnant constituent and the noun is given. (Corver and Van Koppen 2005: 21)

However, potential challenges arise in empirical cases where elliptical NPs are not represented identically to their antecedents, including instances of exophoric cases. More specifically, a challenge emerges when considering their pragmatic behavior; that is, only certain cases show contrastive and partitive relations between ellipsis and its antecedent. To address this issue, aligning with Eguren (2010)’s ‘contrastive focus condition,’ we suggest that, notwithstanding the lack of identity or any overt expression in elliptical NPs compared to their antecedents, contrastive focus can be contextually or situationally

⁶ Bouchard (2002) argues that “when a sharp contrast is presented, *one* may be omitted.”

inferred, thereby contributing to the semantic recovery of N'-ellipsis.

(21) **Contrastive focus (in nominal ellipsis):**

Contrastive focus identifies a relevant alternative or subset in a set of contextually or situationally given alternatives, and the focused onstituent(s) in the remnant cannot be (semantically) identical to the corresponding part(s) in the antecedent phrase. (Eguren 2010: 443)

As in the condition suggested in (21), Eguren (2010) modifies the Contrast Condition by substituting 'contrast' by 'non-identity,' which provides guidance for addressing the pragmatically unresolved situations encountered in the context, including instances such as exophoric cases.

3. Previous approaches

3.1 Deletion analyses

N'-ellipsis has predominantly been analyzed as movement to a focus projection DP (see Abney 1987; Lobeck 1995; Lobeck and Sleeman 2017; Saab 2018, among others). A minimal structure for DPs is illustrated in (22).

(22) John's book was good, but [DP Mary [D' 's [FP [F' [NP e]]]]] was even better.

In the structure, D-features are encoded in an independent projection dominating the nominal root. In accordance with Abney (1987), Saab (2018) proposes a minimal DP structure wherein D-features are associated with NumP.

(23) [DP D [NumP [AP] Num [nP [AP] [nP \checkmark + n[gender] [\checkmark P t \checkmark [AP/PP]]]]]] (Saab 2018: (8))

As in the structure, the features related to Number in a separate functional head Num are positioned above the nP. Within the nP domain, Saab (2018) posits a minimal

structure comprising a lexical root ($\sqrt{\quad}$) and a category-defining head (n), suggesting that both heads undergo head movement, and also take adjectival modifiers attaching to the nP.

Ross (1986) proposes a replacement process involving the transition from deep structure to surface structure in elliptical NP through the lexical pronouns of elliptical NP with one's deletion.

- (24) Mary bought two books on astronomy,
 a. and she read **both books on astronomy** last night. [deep structure]
 b. and she read **both ones** last night. [*one*-pronominalization]
 c. and she read **both** last night. [surface structure]
 (adapted from Lobeck and Sleeman 2017: (11))

As in the process exemplified in (24), the process involves *one*-pronominalization from the deep structure transitioned to the surface structure through deletion, which is represented in the transformation from 'both books on astronomy' to 'both ones,' resulting in N'-ellipsis as 'both.' As Stirling and Huddleston (2002) point out, however, this process may not be applicable under certain conditions, as the *one*-pronominalization is only viable for countable readings of noun phrases.

3.2 Empty nominals as pro-forms

Jackendoff (1972) analyzed an empty N as an empty pronominal (PRO) head, suggesting it is base-generated rather than a result of deletion operations. Lobeck (1995) and López (2000), adopting Jackendoff's analysis, propose that ellipsis functions as a pro-form which is licensed by a D(iscourse)-linked functional head. The following generalization is suggested by López (2000):

- (25) Elided constituents are licensed if they are associated with a discourse-linking functional category. (López 2000: 187)

Against this idea, Panagiotidis (2002, 2003) argues that empty categories can no longer be defined based on the features [+/-pronominal] and [+/-anaphor]. In a suitable

pragmatic context, *one* and the empty noun exhibit free variation, indicating a situation in which two or more forms coexist in the same context without a change in meaning, and without either one being considered incorrect.

However, a potential problem with this argument arises from the examples involving split antecedents. Consider the following example from Elbourne (2008):

- (26) John needed a *hammer*. Mary needed a *mallet*. Each borrowed Bill's [*e*].
(Elbourne 2008: (19))

Especially, in (26), some empirical cases are not adequately applied within certain contexts, such as the split antecedents referring to a definite description like 'the unique item that was a hammer or a mallet which John and Mary needed.'

4. A corpus investigation

4.1 Search methods

To establish our corpus dataset, we randomly selected 400 tokens from web-based corpora COCA (Corpus of Contemporary American English) and BNC (British National Corpus). These examples underwent Part-of-Speech (POS) tagging with a search string consisting of a determiner or adjectival modifier (or both) lacking a nominal head in the NP domain:

- (27) DETERMINER/QUANTIFIER + (ADJECTIVAL MODIFIER) + [PHRASAL BOUNDARY]

Subsequently, we conducted the annotation process by applying POS tags to the examples using a more precise search string. This annotation ensured the absence of a nominal head in the NP domain, considering stackable adjectival modifiers and identifying phrasal boundaries, including punctuation and verb phrases. Here are the instances of the search strings with POS tags:

- (28) a. ADJ|POSS|QUANTIFIER PUNC
b. POSS|ADJ|DET|NOUN 's VERB

- c. ADJ|ORD|CRD|CMP|DET PREP
- d. (INDEFINITE|DEFINITE|POSS|QUANTIFIER) +
NOUN|PRONOUN's|ADJ|ORD|CRD|CMP|DET PUNC|CONJ
- e. POSS|SPRL AUX

To distinguish diverse environments in which elliptical NPs are situated, we found it necessary to manipulate search strings, inevitably not considering quantitative frequencies for numerical distribution. After tagging annotations, we have followed some procedures to analyze the dataset as follows:

1. Recovering elliptical NPs
2. Classifying endophoric and exophoric antecedents
3. Identifying syntactic mismatch cases
4. Examining (non-)connectivity effects
5. Figuring out coordinate or subordinate relations between elliptical and antecedent NPs

In our data analysis procedures, we began by recovering elliptical NPs. This involved extracting examples with POS tags on their remnants in ellipsis sites and corresponding antecedent NPs. Through this process, we meticulously reconstructed the nominal meanings of the elliptical NPs, based on the context provided. Moving on, our classification of endophoric and exophoric antecedents were identified. While discerning those, we not only identified their anaphoric or cataphoric nature but also figured out situational antecedents with classification. Moreover, we identified cases of syntactic mismatch, considering the features elliptical NPs may obtain such as number, gender, definiteness, syntactic categories, or voice. This comprehensive approach allowed us to discuss the syntactic structures. Additionally, our examination of (non-)connectivity effects extended to accounting for phenomena like left-branch islands or preposition stranding within NP domains. Lastly, we inquired into the coordinate or subordinate relations between elliptical and antecedent NPs.

Additionally, to avoid potential structural confusions or ambiguities, specific cases were filtered out from our dataset:

- (29) a. You'll probably need a bigger a free t-shirt! You'll probably need a

- bigger *one*. (COCA 2015 TV)
- b. President Obama wanted to help the working class and *the poor* (= poor people). (COCA 2012 BLOG)
- c. *Most important* is the finding that chromatin integrity as visualized by AB or TB staining is a predictor for ART outcomes. (COCA 2019 ACAD)
- d. ... and *his or her being* diplomatic but awfully cumbersome, the obvious answer was to say their. (BNC EDJ W_fict_prose)

As in (29), the exclusions include instances including pronominal *one*, nounless NPs like people-deletion or human null NPs (see Pullum 1975; Giannakidou and Stavrou 1999; Panagiotidis 2002, a.o.), inverted predicates with similar structures, and present participle expressions after a possessive pronoun.⁷

4.2 Data variables

Our corpus investigation heavily depends on the overall classification of diverse data variables. Due to the absence of numerical distribution, as stated earlier, this research may not present quantitative frequencies for each variable. Nevertheless, it does provide the basic distributional properties associated with each variable, thereby contributing to the comprehensive understanding of contextual information given in discourse.

The first variable to consider is determiner types. Licensors in elliptical NPs include a determiner, which can take the form of a demonstrative, possessive, or interrogative pronoun, genitive 's, or a quantifier. Below are the determiner types functioning as the licensor in elliptical NPs, along with accompanying examples:

Table 1. Types of determiners as the licensor in elliptical NPs and their examples

Syntactic categories		Examples
determiners	demonstrative	<i>What he needs to do is stop this division of people to do communities of color and this, that, and the other thing.</i> (COCA 2016 SPOK)
	possessive	<i>What comes out of <u>his</u> mouth is blessed, Alonso. What comes out of your is evil.</i> (COCA 1992 FIC)
	interrogative	<i>It is much more a question of knowledge and awareness of <u>which</u> foods to eat and which to avoid.</i> (BNC BPG W_misc)

⁷ Empty (or silent) noun *one* cases which are semantically empty but have overt head noun.

	genitive 's	<i>While Dr.Griffith attaches <u>Ed's lobe</u>, Mary's is being removed in a third operating room. (COCA 1998 SPOK)</i>
	quantifier	<i>A series of four explosions, each within a decade of the last, could have expanded the ice enough to make it stable. (COCA 2012 MAG)</i>

Furthermore, various types of additional adjectival modifiers, especially, emerge in conjunction with determiners or quantifiers. Within elliptical NPs, based on our dataset, determiners can combine with additional adjectival expressions, such as attributive adjectives, numerals, superlatives, or participles.

Table 2. Types of adjectival modifiers as the licenser in elliptical NPs and their examples

Syntactic categories		Examples
adjectival modifiers	attributive adjectives	<i>when I drink <u>pasteurized milk</u> but have no trouble at all with the raw. (COCA 2008 MAG)</i>
	numerals	<i>I already had <u>two children</u>, and the last thing I wanted was a third. (BNC CB8 W_pop_lore)</i>
	superlatives	<i>Where patients presented with <u>multiple ulcers</u>, however, details of only the four most significant were requested, ... (BNC EE8 W_non_ac_polit_law_edu)</i>
	participles	<i>The crack of his first shot succeeded only in raising <u>a screeching flock of parrots</u> from the trees behind him and the heard ran on unharmed. (BNC FU8 W_fict_prose)</i>

Interestingly, the modifiers listed in Table 2 somewhat align with the types of licensors permitting the *one*-insertion in elliptical NPs, as exemplified in (4). The most obvious finding to emerge from the distributions is that it could be attributed to the cases where the elided noun forms not just a head noun (N'-ellipsis) but an entire noun phrase (NPE), as illustrated in (2). It can therefore be assumed that it is not the adjectival modifiers within the NP domain that have the capacity to license ellipsis; instead, it is determiners and quantifiers that assign licensing.

Moreover, it is noteworthy to observe that the antecedent NP is categorized into two distinct types based on whether the noun ellipsis is endophoric or exophoric. In the former, the ellipsis may either follow (anaphoric) or precede (cataphoric) the elliptical noun.

Table 3. Classification of endophoric and exophoric antecedents with their examples

Overtness		Examples
Endophoric	Anaphoric	<i>His smile belied the cruelty of his words. But Folly knew which to believe.</i> (BNC H8S W fict prose)
	Cataphoric	<i>However, Obama's is not <u>your grandfather's isolationism</u>.</i> (COCA 2010 ACAD)
Exophoric		<i>I think feminism may be dying, but it has not gasped its last. I wish it were dead.</i> (COCA 1992 NEWS)

Upon adding a brief clarification, at least from our dataset, the antecedents of elliptical NPs do not occur covertly; thus, all overtly-represented antecedents correspond to endophoric cases. Last but not least, based on the classification, our dataset indicates that most of the endophoric antecedents appear in the form of anaphoric cases, as in the following distributional differences.

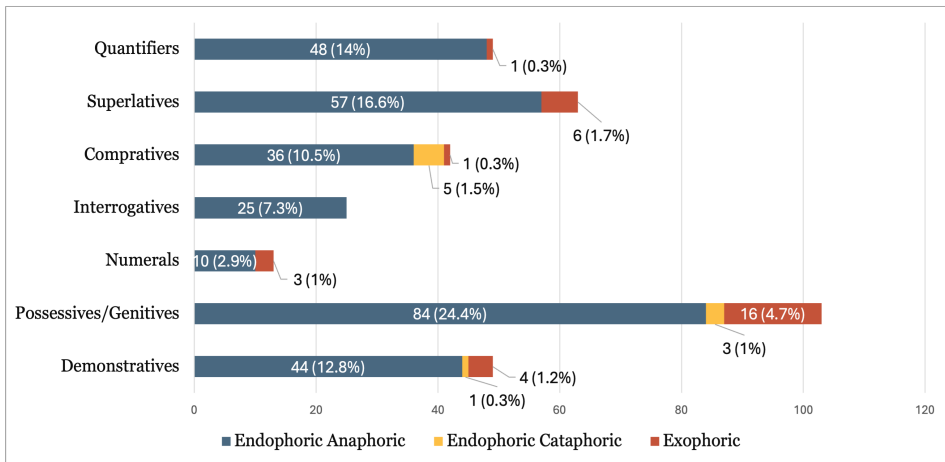


Figure 1. Distributions of syntactic categories of remnants according to the antecedent type

While we did not engage in numerical quantitative observation, we were able to examine the distributional properties throughout our dataset, as in Figure 1. A notable observation regarding antecedent distribution, however, is that various types of determiners and quantifiers, although with low frequencies, occur with exophoric antecedents, as in endophoric ones. Also, it is intriguing to note that exophoric antecedents were found to be more frequent than cataphoric cases.

5. Discussions

5.1 Scope of the recoverability

The analysis of our dataset reveals instances where there are syntactic mismatches between ellipsis and their antecedent. Specifically, our findings indicate that 21.75% of the cases (87 out of 400 tokens) exhibit mismatch cases in number, gender, and category between the elliptical and antecedent NPs, which shows a significantly higher rate.

- (30) a. Number mismatch: Obama could only receive emails from [plural designated accounts], and [singular **Clinton's**] was one of them, Abedin said. (COCA 2016 MAG)
- b. Gender mismatch: While his mother never regained [fem her faith], he kept [masc **his**] in the courtroom and in the trials of humanity and, most important, in that filter. (COCA2017 FIC)
- c. Category mismatch: [clausal Obama didn't make arguments] about ending the war that differed substantially from **Clinton's** (= *Clinton's arguments*). (COCA 2012 WEB)

Especially, in the example (30c), the only possible putative source can be identified in the context as a clausal form. Simply put, the meaning of ellipsis site in NP can be recovered from the overtly expressed clausal source in the antecedent. The significantly high frequency of these mismatches may be related to a previous experimental study in Tanenhaus and Carlson (1990), which suggests that surface anaphors such as VP ellipsis exhibit greater resistance to mismatched antecedents compared to deep anaphors.

As mentioned earlier, not every quantifier licenses ellipsis in the domain of NP, since *every* and *no* do not allow for partial interpretation of ellipsis, as given in the following distributional constraints López (2000):

- (31) a. Some students are decent, but most/many/all/some/three/each [*e*] are not.
 b. *Some students are decent, but every [*e*] is not.
 c. *Some students are decent, but no [*e*] is not.
 d. *Some students are decent, but the [*e*] is not.

(adapted from López 2000: 190)

The constraints identified in elliptical NPs from this finding may be related specifically to partitive NPs, as considered in the partial interpretation:

- (32) a. *every of the students
 b. *no of the students
 c. *the of my students

However, other cases with acceptable determiners in N'-ellipsis do not hold for the partitive relations between antecedent and elliptical NPs, as follows.

- (33) a. *this of the four schools
 b. *these of the new books
 c. *my of the graduate students

This may lead us to account for partitive relations between elliptical and antecedent NPs. In particular, *every* and *no* as partitive NPs cannot be substituted for, and consequently, cannot convey equivalent meanings to *each* and *none* which already function as a full-fledged NP.

Another issue to consider lies on recoverability of the elliptical NPs, such as idiomatic expressions. Consider the following repeated example:

- (34) I couldn't *gives monkey's*, whether most people do OK in life. (COCA 2013 MOV)

In the (34), an idiomatic expression *give a monkey's*, which means 'to care about something,' appears without a head noun and lacks an overt antecedent. Rather, the meaning or function resembles that of a phrasal verb.

In addition, there are some cases like (35a) where an elliptical NP is contained within complex NP obtaining its own antecedent, which results in an infinite regress. If N'-ellipsis undergoes movement-and-deletion operations, a structural question may raise concerns about the infinite regress under reconstruction, as the elided head noun is contained within the reconstruction with heavy complex NP island.

- (35) a. They detail a bunch of [NP Romney's positions on surveillance, detention

and drone strikes [CP that just so happen to match **Obama's**]]. (COCA 2012 WEB)

- a'. Obama's = *Obama's positions on surveillance, detention and drone strikes that just so happen to match Obama's positions on surveillance, detention and ...*

An implication of this finding is the possibility that, as given in (35b), the interpretation within a complex NP under reconstruction appears to be semantically verbal rather than syntactically nominal. Therefore, this observation gives rise to a structural question.

5.2 Pronominal forms

Another aspect to consider is the pronominal forms underlying in elliptical NPs such as *one*-replacement, where specific conditions may lead to ungrammatical sentences in some contexts, as discussed by Perlmutter (1970) with the following examples:

- (36) a. Svetlana has two red *masks* and Guido has a green *(one).
 b. Svetlana has two red *masks* and Guido has one too.
 c. *Svetlana has two *red masks* and Guido has a one too.

(Perlmutter 1970: 236)

In (36), Perlmutter (1970) proposes two potential derivations of *one* in NP domains, a pronoun *one* and a numeral *one*, the latter of which may be the counterpart of an indefinite article. This analysis conforms to the observation that when the numeral *one* is unstressed, it can be reduced to an indefinite article *a*, such as from 'one green one' to 'a green one.' But a challenge arises as this *one*-pronominalization is compatible only with count readings, as pointed out by Stirling and Huddleston (2002). This issue is exemplified by the following authentic data from corpus:

- (37) a. Some 95% of characters with [disabilities] are played by actors *without any*. (COCA 2019 MAG)
 a'. ?Some 95% of characters with [disabilities] are played by actors *without any one*.

- b. He threw [his wishing rocks] with abandon and laughed at me for *not* tossing even **one**. (COCA 2006 FIC)
- b'. *He threw [his wishing rocks] with abandon and laughed at me for *not* tossing even **one one**.

In contrast to the pronominal noun phrase with a quantifier in (37a'), the remnant determiner in the form of the numeral *one* in (37b) exhibits a distinct characteristic, in which the underlying interpretation from the previous derivation in (36) such as 'one one' as in (37b') seems unacceptable.

Here are additional instances concerning the use of 'any' as the remnant in elliptical NPs, where a negative polarity item 'any' is allowed in the downward-entailing environment of elliptical NPs:

- (38) a. No matter which type of training you emphasize in the peak phase, your aerobic capacity *won't budge* **any higher**. (COCA 2012 BLOG)
- b. Her breath caught somewhere in the region of her throat and *refused to budge* **any** farther. (COCA 2004 FIC)

As shown in (38), when 'any' denotes an idiomatic minimum, also referred to as a minimizer in terms of semantics, such as 'budge an inch,' such expressions may occur in ellipsis sites without an explicit antecedent, relying on the possible exophoric antecedent such as 'capacity' or 'rate' in (38a) and 'inch' in (38b).

Furthermore, in the elliptical NPs, particles may appear without a head noun, which serves as evidence indicating that the remnant itself can act as both referential and pronominal within the ellipsis site.

- (39) a. I just want to see him locked up because my chains are broken now. Now, it's time to see him with **some** on. (COCA 2018 SPOK)
- b. By now Ricky had borrowed almost every fenceable thing Josephine owned along with whole cartons of cigarettes, and cash if she was stupid enough to leave **any** around. (COCA 1993 FIC)

For instance, in (39a), a particle as the remnant in the elliptical NP, which can be referred to as NP-particle, is left stranded without its accompanying noun. Similarly, in (39b), a

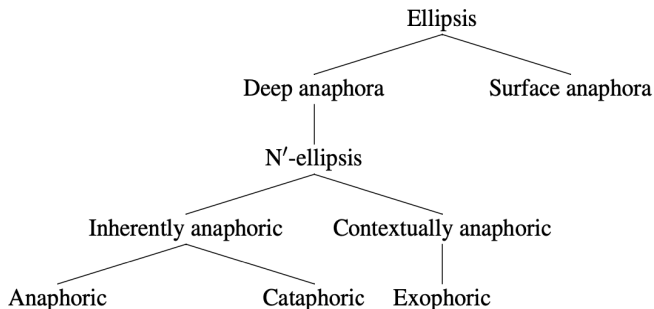
verb-particle follows the quantifier *any*, independently serving as the object in a verb-particle construction. This observation suggests that an elliptical noun phrase itself can operate as a pronominal form, not requiring a covert or empty head noun.

5.3 Context-dependent environment

Our dataset analysis has found structural challenges within elliptical NPs, including syntactic mismatch and the potential problem of an infinite regress reading within complex NP islands. Moreover, we have encountered difficulties concerning licensors, particularly the contextual constraints involving the unavailability of partial interpretation and the issues associated with *one*-pronominalization. In addressing these challenges, our findings suggest that the remnant in an elliptical NP can function effectively as a pronominal form without the necessity for reconstruction. Instead, it relies on an underlying interpretation derived from the context.

This observation may support the hypothesis that the antecedent of N'-ellipsis is context-dependent in discourse and that the ellipsis requires a discourse referent as the salient antecedent. It is therefore likely that such connections exist in the contextual anaphoric relations within N'-ellipsis. Our data observations reveal two distinct types of antecedents in these relations: one is an inherently anaphoric antecedent, and the other one is a contextually anaphoric antecedent, as illustrated in the following structure as a construction of deep anaphora:

(40)



Based on the inherently anaphoric, which is deictic, antecedents, the elliptical head noun in an NP can be recovered from explicitly expressed material in the context. Conversely,

when dealing with contextually anaphoric antecedents, the elliptical head noun in NP is situationally dependent on the context of utterance in discourse, as it is pragmatically controlled. Furthermore, given that the evoked elliptical NP is pronominal, it can establish a basis for a more context-dependent environment, irrespective of the type of remnant serving as a pronominal licenser (Kim and Nykiel 2020).

In addition, in the relations between the antecedent and elliptical NPs, it seems that partitivity is not required. However, ‘contrastive focus’ should be taken into account based on the contextual information given in discourse, suggesting that the contrastive focus on the remnant in an elliptical NP is entirely context-dependent.

6. Concluding remarks

N-bar or nominal ellipsis, as even noted by the previous literature, displays both surface and deep anaphoric properties. Our investigation of attested data for N-bar or nominal ellipsis also shows us that we could not resort to the linguistic or structural properties of the ellipsis to recover the unexpressed expression. The empirical evidence from authentic data, including mismatches between the remnant and its antecedent and potential interpretation issues within complex NP islands, supports this point. We have seen that in the context of reconstruction, interpretations of elliptical NPs appear to be semantically verbal rather than syntactically nominal. In addition, challenges related to licensers, such as contextual constraints and issues with *one*-pronominalization, have been encountered. Our findings suggest that the remnant in an elliptical NP can effectively function as a pronominal form without the need for reconstruction. This supports the hypothesis that the antecedent of N'-ellipsis is context-dependent based on the given discourse information.

Based on the observation, we suggest that two types of antecedents can be identified: inherently anaphoric and contextually anaphoric. Inherently anaphoric antecedents allow for recovery from explicitly expressed material, while contextually anaphoric antecedents are situationally dependent and controlled pragmatically. Specifically, in the relationship between antecedent and elliptical NPs, previous analyses regarding partitivity may not be considered for partial interpretation. Instead, it is important to consider ‘contrastive focus’ within the elliptical NP. This observation indicates that an elliptical noun phrase can function as a pronominal form on its own, without the need for a hidden or empty head

noun. Consequently, our findings lead us to propose that nominal ellipsis can be context-dependent, thereby triggering contextually anaphoric relations with broader implications for interpretation in discourse.

References

- Abney, Steven P. 1987. *The English noun phrase in its sentential aspect*. PhD Dissertation. Massachusetts Institute of Technology.
- Bouchard, Denis. 2002. *Adjectives, number and interfaces: Why languages vary*. North Holland: Elsevier.
- Corver, Norbert and Marjo Van Koppen. 2005. Microvariation and ellipsis in the *wat voor*-construction. A handout from *Sounds of Silence Workshop*. Tilburg University. October 19-22.
- Davies, Mark. 2008-. *The Corpus of Contemporary American English*. Available online at <https://www.english-corpora.org/coca/>.
- Eguren, Luis. 2010. Contrastive focus and nominal ellipsis in Spanish. *Lingua* 120(2): 435-457.
- Elbourne, Paul. 2008. Ellipsis sites as definite descriptions. *Linguistic Inquiry* 39(2): 191-220.
- Giannakidou, Anastasia and Melita Stavrou. 1999. Nominalization and ellipsis in the Greek DP. *The Linguistic Review* 16(4): 195-332.
- Günther, Christine. 2012. Noun ellipsis in English: Adjectival modifiers and the role of context. *English Language & Linguistics* 15(2): 279-301.
- Günther, Christine. 2013. *The elliptical noun phrase in English: Structure and use*. New York; London: Routledge.
- Hankamer, Jorge and Ivan Sag. 1976. Deep and surface anaphora. *Linguistic Inquiry* 7(3): 391-428.
- Jackendoff, Ray S. 1972. *Semantic interpretation in generative grammar*. Cambridge, MA: The MIT Press.
- Khullar, Payal, Kushal Majmundar, and Manish Shrivastava. 2020. NoEI: An annotated corpus for noun ellipsis in English. In Nicoletta Calzolari, Frédéric B chet, Philippe Blache, Khalid Choukri, Christopher Cieri, Thierry Declerck, Sara Goggi, Hitoshi Isahara, Bente Maegaard, Joseph Mariani, H l ne Mazo, Asuncion Moreno, Jan Odijk, and Stelios Piperidis (eds.), *Proceedings of the Twelfth Language Resources and Evaluation Conference*, 34-43. European Language Resources Association.
- Kim, Jong-Bok and Joanna Nykiel. 2020. The syntax and semantics of elliptical constructions: A direct interpretation perspective. *Linguistic Research* 37(2): 327-358.
- Lobeck, Anne. 1993. Strong agreement and identification: Evidence from ellipsis in English. *Linguistics* 31(5): 777-811.

- Lobeck, Anne and Petra Sleeman. 2017. Ellipsis in noun phrases. In Martin Everaert and Henk C. van Riemsdijk (eds.), *The Wiley Blackwell companion to syntax* (Second edition), 1-35. New York: John Wiley & Sons, Inc.
- Lobeck, Anne C. 1995. *Ellipsis: Functional heads, licensing, and identification*. New York: Oxford University Press.
- López, Luis. 2000. Ellipsis and discourse-linking. *Lingua* 110(3): 183-213.
- Merchant, Jason. 2001. *The syntax of silence: Sluicing, islands, and the theory of ellipsis*. Oxford: Oxford University Press.
- Merchant, Jason. 2008. Variable island repair under ellipsis. In Kyle Johnson (ed.), *Topics in ellipsis*, 132-153. Cambridge: Cambridge University Press.
- Merchant, Jason. 2014. Gender mismatches under nominal ellipsis. *Lingua* 151(Part A): 9-32.
- Panagiotidis, Phoevos. 2002. Pronominal nouns. In Heike Wiese and Horst J. Simon (eds.), *Pronouns-grammar and representation*, 183-203. Amsterdam: John Benjamins Publishing Company.
- Perlmutter, David M. 1970. On the article in English. In Manfred Bierwisch and Karl Erich Heidolph (eds.), *Progress in linguistics*, 233-248. The Hague: De Gruyter Mouton.
- Pullum, Geoffrey K. 1975. (From: The principle of phonology-free syntax) people deletion in English. *Ohio State University Working Papers in Linguistics* 18: 172-183.
- Ross, John Robert. 1986. *Infinite syntax!* Norwood, NJ: Ablex.
- Saab, Andrés. 2018. Nominal ellipsis. In Jeroen van Craenenbroeck and Tanja Temmerman (eds.), *The Oxford handbook of ellipsis*, 526-561. Oxford: Oxford University Press.
- Sag, Ivan A and Jorge Hankamer. 1984. Toward a theory of anaphoric processing. *Linguistics and Philosophy* 7(3): 325-345.
- Sag, Ivan A. 1976. *Deletion and logical form*. PhD Dissertation. Massachusetts Institute of Technology. *Journal of East Asian Linguistics* 17: 247-271.
- Sleeman, Petra. 1996. *Licensing empty nouns in French*. PhD Dissertation. University of Amsterdam.
- Stirling, Lesley and Rodney Huddleston. 2002. Deixis and anaphora. In Rodney Huddleston and Geoffrey K. Pullum (eds.), *The Cambridge grammar of the English language*, 1449-1566. Cambridge: Cambridge University Press.
- Tanenhaus, Michael K. and Greg N. Carlson. 1990. Comprehension of deep and surface verb phrase anaphors. *Language and Cognitive Processes* 5(4): 257-280.
- Thompson, Andrea. 2014. *Beyond deep and surface: Explorations in the typology of anaphora*. PhD Dissertation. University of California, Santa Cruz.
- Wurmbrand, Susi. 2016. Agreement in nominal ellipsis: Consequences for the Agreement Hierarchy and the direction of Agree. An invited talk presented at *Workshop on Agreement*. Frankfurt, Germany. July 14.

90 Seulkee Park · Jong-Bok Kim · Eunjeong Oh

Seulkee Park

Lecturer
Department of English Linguistics and Literature
Kyung Hee University
26, Kyungheedaero-ro, Dongdaemun-gu,
Seoul, 02447 Korea
E-mail: seulkeepark@khu.ac.kr

Jong-Bok Kim

Professor
Department of English Linguistics and Literature
Kyung Hee University
26, Kyungheedaero-ro, Dongdaemun-gu,
Seoul, 02447 Korea
E-mail: jongbok@khu.ac.kr

Eunjeong Oh

Professor
Department of English Education
Sangmyung University
20, Hongimun 2-gil, Jongno-gu,
Seoul, 03016 Korea
E-mail: eoh@smu.ac.kr

Received: 2024. 01. 26.

Revised: 2024. 02. 16.

Accepted: 2024. 02. 16.