# A Syntactic Study of *One* Pronominalization

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**Abstract:** In this paper, *one* pronominalization is focused on. To investigate the condition of *one* pronominalization, several frameworks will be analyzed. Particularly, it is claimed that DP analysis proposed by Abney (1987) plays an important role. However, Cinque (2010) pointed out the imperfectness of Abney's theory with respect to the internal structure of nominal phrases.

**Keywords:** *one* pronominalization, anaphor, DP analysis, substitution

## 1. Introduction

This paper attempts to investigate the internal structure of nominal phrases, especially focusing on *one* pronominalization. Firstly, Huddleston and Pullum (2002) will be summarized to provide a general framework of anaphora, including *one* pronominalization. Secondly, it will be shown how the nominal phrases with *one* have been analyzed in the generative framework. The previous studies will be categorized into two groups in terms of the internal structure of nominal phrases. Comparing these analyses, I suggest which analysis would be a promising analysis for *one* prononinalization.

## 2. General Conditions of Anaphoric Phenomena

### 2.1 Anaphora

Anaphora is the term referring to a relation between an anaphor and an antecedent. The interpretation of the anaphora is determined by the antecedent. Consider the following example.

(1) Max claims he wasn't told about it.

<div align="right">(Huddleston and Pullum, 2002)</div>

In (1), the pronoun *he* does not have any intrinsic semantics, and so its interpretation is dependent on another expression; in this case, the proper noun *Max* functions as an antecedent and provides it with the semantic content. Here follow other types of anaphora.

(2) The drummer was late because *he* had overslept again.
(3) His digestion was upset, and *this* led him to the discovery of yoghurt.
(4) If you want me to stay on I will *do so*.
(5) Liz will complain, or at least I think she will ___.

<div align="right">(Huddleston and Pullum, 2002)</div>

In (2), *he* plays the same role as *he* in (1).Anaphor can refer to not only nominal expressions but also states or verbal expressions. In (3), *this* is provided with the semantic content by *his digestion was upset*. Verbal expressions function as an antecedent of the verbal pro-form do so or the empty VP; *do so in* (4) and the empty VP in (5) *are* interpreted as *stay on* and *complain* respectively.

*2.2 Pro-form*

A pro-form is an anaphor with little inherent semantic content of its own. Pro-nominals are distinct from pronouns such as *he/she* with respect to how large a constituent is substituted for. Unlike the personal pronoun *she* in (7), the pronominal *one* substitutes for just a part of nominal phrase, as shown in (6).

(6) I asked for a green <u>shirt</u>, but he gave me a white <u>*one*</u>.
(7) <u>The woman next door</u> thinks <u>*she*</u> may be able to help.

<div align="right">(Huddleston and Pullum, 2002)</div>

Here, *one* is interpreted as *shirt*, but not *a green shirt*. In contrast, in (7), the personal pronoun *she* refers to the same individual indicated by the full nominal phrase *the woman next door*.

*One* is generally classified into two types. One is numeral, the other is anaphor. Numeral *one* just indicates number. It has the same role as *two* or *three*.

(8) I have *one* dog.

Sometimes, numeral *one* appears to behave like an anaphor, as in (9).

(9) Sam met <u>a new student</u>, and I met <u>*one*</u>, too.

<div align="right">(Campbell, 1996)</div>

Apparently, *one* in (9) substitutes for *(a) new student*, so one may conclude that this *one* is also an instance of the pro-nominal *one*. The following example, however, shows that it is not the case.

(9)′ a. Sam met t<u>wo new students</u> and I met <u>*three*</u>.
　　b. one (new student) / three (new student)

In this case, *three* illustrates a contrast with the preceding numeral *two*, and it leads us to consider that the string *new student* is omitted after the numeral *three*. The same is true in (9): after *one*, the string *new student* is omitted. Thus, we can conclude that *one* in (9) is numeral, not an anaphor.

Anaphoric *one* is distinct from numeral *one*. According to Huddleston and Pullum (2002), the syntactic differences between them are as follows:

(10) a. Anaphoric *one* functions only as head in NP structure.
　　b. Anaphoric *one* inflects for number (with *ones* as plural form).
　　c. Singular *one*, like other count singular nouns, requires a preceding determiner.

<div align="right">(Huddleston and Pullum, 2002)</div>

(11) a. She had taken only *one* book.
　　b. These <u>cakes</u> are better than the <u>*ones*</u> I made.
　　c. This <u>knife</u> is blunt: have you got a sharper <u>*one*</u>?

<div align="right">(Huddleston and Pullum, 2002)</div>

*One* in (11a) is numeral, and it functions as a modifier of a head noun *book*. Contrary to the numeral *one*, anaphoric *one* is not a modifier but appears to function as a head of NP. Moreover, anaphoric *one* has its plural forms *ones*, as in (11b), which shows that it is distinct from the numeral *one* (Campbell, 1996).

Although, Huddleston and Pullum (2002) argue that anaphoric *one* serves as a head of NP, the next section points out some problems with N substitution.

## 2.3 Overview of Framework

### 2.3.1 Problem with N substitution

As mentioned above, anaphoric *one* has been treated as the head, namely N (Huddleston and Pullum, 2002). However, it is not sufficient to conclude that *one* substitutes for the head in NP. Consider the contrast in (12).

(12) a. Jack met the king from England, and I met the *one* from France.
     b. *Jack met the <u>king</u> of England, and I met the <u>*one*</u> of France.

<div align="right">(Jackendoff, 1977)</div>

These sentences differ in that N is followed by *from* phrase or *of* phrase. Here, *one* in (12a) substituted for *king* which is considered as N. It appears that N substitution is possible even when a prepositional phrase is adjoined. In (12b), however, this sentence is ungrammatical even though *one* substitutes for *king*, namely N. This ungrammaticality is attributed to the fact that *of p*hrase is stranded in the NP with anaphoric *one*. In addition to this, another example suggests that prepositional phrases adjoined to nouns have several varieties. The order between *of* phrase and *from* phase is not changeable, as shown in (13).

(13) a. the king of England from France
     b.*the king from France of England

<div align="right">(Jackendoff, 1977)</div>

This fact suggests that the syntactic status of these prepositional phrases (PP) is different; that is, *of* phrase and *from* phrases are classified into different categories.
Jackendoff (1977) explained this difference by showing the internal structures of the nominal expressions.

 (14) a. $[_{N''}$ the $[_{N'}[_{N}$ king$]$ of England$]]$
      b. $[_{N'''}$ the $[_{N''}[_{N'}[_{N}$ king$]$ of England$]$ from France$]]$

<div align="right">(Jackendoff, 1977)</div>

Here, the head noun *king* and PP *of England* composes a constituent labeled as N′, and another PP *from France is* attached to this N′, resulting in another intermediate projection labeled as N″. In other words, PP *of England* is in the closer position to *king* than PP *from Franc*. Jackendoff (1977) refers to the closer PP as complement and the PP adjoined to N′ adjunct. This classification is important to investigate the range of *one* substitution.
     The classification remarked above helps explain the grammaticality of examples (12). Given the classification above, we can describe the contrast in (12) as follows: the adjunct PP, namely *from France*, can be stranded but the complement PP, must be included in the range of *one* substitution.

(15) a. Which <u>student</u> were you referring to? *The <u>*one*</u> of Physics with long hair?
     b. I met a <u>student of Physics</u> with long hair and a *one* with short hair.
     c. I met a sincere <u>student of Physics with long hair</u> and a lazy *one*.

<div align="right">(adapted from Radford, 1988)</div>

In the ungrammatical example (15a), *one* is intended to substitute for the head noun *student* and PP *of Physics* is interpreted as a complement *of student*, which is ungrammatical. In the grammatical example (15b), contrary to (15a), *one* is intended to substitute for *student of Physics*, which forms N′ consisting of N and its complement. This shows that when N has its complement, both N and its complement have to be substituted for. The adjunct PP, however, can be stranded or be included in the range of *one* substitution. In (15), PPs *with long hair/short hair* are adjoined to N′ as an adjunct. In (15b), which is fully accepted, the adjunct PP is outside of *one* pronominalization, while in (15c), which is also acceptable, *one* substitutes for a larger constituent *student of Physics with long hair*, which consists of N, its complement and its adjunct.

In this section, it has been demonstrated that *one* substitution is dependent on constituency, and that the pro-form *one* substitutes for a smaller constituent than the whole NP, but contrary to Huddleston and Pullum's (2002) claim, it substitutes a larger constituent than the head noun N. In what follows, we will consider the internal structure of nominal phrase in detail.

### 2.3.2 Range of Substitution

Wit the structure of the noun phrase in (16), Jackendoff (1977) and Radford (1988) argue that the constituent which *one* substitutes for is labeled as N′.

(16)  a *one* with short hair (*one* = student of Physics)



student of Physics = *one*
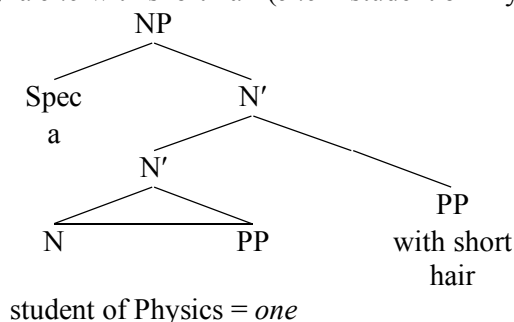
The constituent *student of Physics* is labeled as N′ and so does the constituent *student of Physics with short hair*. As we observed in the previous section, the target of *one* substitution is the intermediate constituent, i.e. N′. While Jackendoff (1977) and Radford (1988) describes the internal structure of nominal phrases with NP-analysis, I would like to employ Abney's (1987) DP-analysis of nominal phrases in this paper. The reason is that DP-analysis is widely accepted in a main stream of the generative syntactic theory.

Chomsky (1995) supported DP analysis by introducing the theory called bare phrase structure (BPS). In his theory, there are no bar levels such as N′ inside a nominal phrase. This means that it is not necessary to use N′ to describe the internal projection. N′ can be treated as NP as well as the maximal projection, so the internal structure of nominal phrase is interpreted as below.

(17) a *one* with short hair



student of Physics = *one*
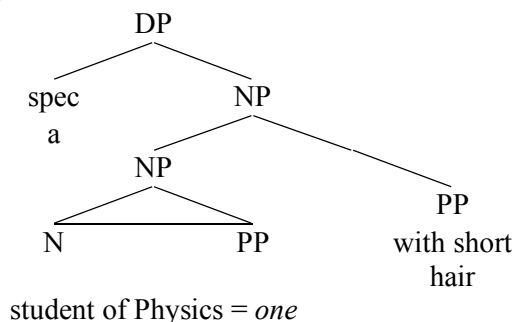
The crucial point is that the nominal expression DP introduced by determiner, instead of NP, and NP takes the position of N′ as the intermediate projection. This analysis shows that *one* substitutes for NP instead of N. It appears that N′ substitution proposed by Radford (1988) and NP substitution proposed by Chomsky (1995) play different operations. However, the layers *one* can substitutes for are structurally same. Only the labeling is different.

To sum up, N substitution which is proposed by Huddleston and Pullum (2002) is not appropriate. *One* substitutes for larger constituents which are labelled N′ or NP. These labels have different projections but play the same role. In this paper, we accept DP-analysis to investigate *one* pronominalization. This analysis will be used the rest of this paper.

However, the structure in (17) is not sufficient to account for the whole picture of *one* pronominalization because some sentences like below cannot be explained. Consider the example (18).

(18) Take the red <u>book on the table</u> or the blue <u>*one*</u>.

<div align="right">(Dahl, 1985)</div>

In (18), *one* substitutes for *book on the table* which consists of N and PP. Under (17), the structure of (18) is described as below.

(19) [$_{DP}$ the [$_{NP}$ [$_{NP}$ red [$_N$ book]] [$_{PP}$ on the table]]]

Here, according to Radford (1988), the prepositional phrase *on the table* is not a complement but an adjunct and is adjoined to NP *red book*, just like *with short hair* in (17). The problem is that *one* substitutes for a part of NP, namely *book* and the adjunct *on the table* even though they do not form a constituent. Under (17), (18) would be ungrammatical, but it is fully accepted. In addition, we need to consider the syntactics position of the adjective *red*. It can be concluded that it is required to investigate other analyses of inside DP.

      To examine the internal structure of nominal expressions, nominal expressions such as below must be discussed.

(20) Take the <u>red book</u> on the shelf or the <u>*one*</u> on the table.
(21) I saw a big <u>lighted house</u> and a small <u>*one*</u>.
(22) *I saw a brightly <u>lighted house</u> and a dimly <u>*one*</u>.

<div align="right">(Dahl, 1985)</div>

In (20), *one* is intended to substitute for *red book* which is adjective, namely A and N, and adjuncts *on the shelf/ on the table* are not substituted for. In (21), *house* is modified by two adjectives *big* and *lighted*, and *one* substitutes for *lighted house* which is one of two adjectives and N. In (22), *one* is intended to substitute for *lighted house*. (24) is distinct from other two examples (20) and (21) in that there is an adverb which modifies the adjective adjacent to it *lighted*. The important point in (22) is that this sentence is NOT grammatical.

      In the next section, these sentences (18), (20), (21) and (22) will be investigated under DP-analysis developed by some theories.
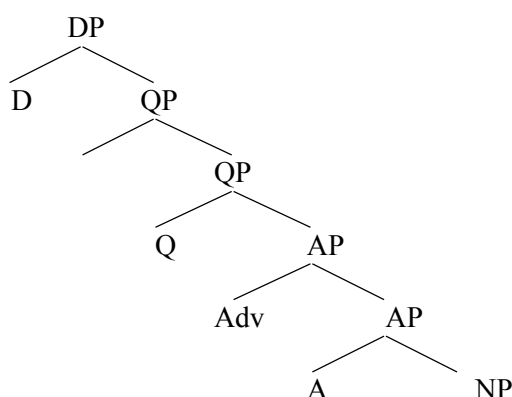
## 3. *One* Pronominalization

In section 2, I summarized the labeling of the internal structures of nominal phrases. However, only the nouns which are modified by postnominal elements, like *student of Physics* are focused on. In this paper, I would like to claim that *one* pronominalization with prenominal modifiers such as (20) - (22) should also be investigated as well as pronominalization with postnominal modifiers, in order to make clear the rigid structure of nominal phrases.

### 3.1 AP takes NP as a Complement Theory: Abney (1987), Campbell (1996)

### 3.1.1 Abney (1987)

Abney (1987) proposed that NP functioned as a complement of AP. According to Abney (1987), AP is indistinct from NP in that adjectives inherit the feature [+ substantive] from their NP complements. In other words, AP can behave like NP only when AP takes NP as its complement. If so, the internal structure of nominal phrase including premodifier can be described as below.

(23)

```
                DP
              /    \
            D       QP
                     \
                      QP
                    /    \
                  Q       AP
                        /    \
                      Adv     AP
                            /    \
                           A      NP
```

(cf. Abney, 1987)

with this DP structure, for example, the DP in (21) will have the following internal structure.

(24) [DP a [AP big [AP lighted [NP house]]]]

In (24), the adjective *lighted house* takes NP headed by *house* as its complement, and forms AP. Since the [+substantive] feature is inherited from NP to AP, this AP behaves as the nominal extended projection. Similarly, the adjective *big* takes this AP and the resulting constituent AP further inherits the nominal property to serve as the nominal extended projection. AP can be the nominal extended projection only when it takes NP complement. So, the string like *the red* is unacceptable since AP does not take NP as its complement and nothing can provide it with the feature [+substantive].

Under this analysis, examples (18), (20), (21) and (22) will be investigated.

(25) the blue *one* (*one* = book on the table)
    [DP the [AP blue [NP [N *book*] [PP *on the table*]]]]
(26) the *one* on the table (*one* = red book)
    [DP the [AP *red* [NP [N *book*] [PP on the table]]]]
(27) a small *one* (*one* = lighted house)
    [DP a [AP small [AP *lighted* [NP *house*]]]]
(28) a dimly *one* (*one* = lighted house)
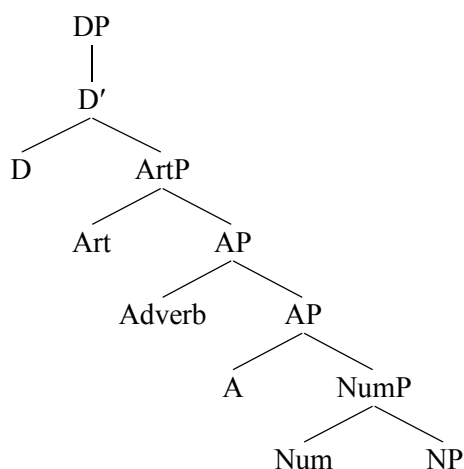    [DP a [AP dimly [AP *lighted* [NP *house*]]]]

In (25), one is intended to substitute for NP consisting of N and PP *book on the table*. *Book on the table* must form a constituent since (19) is grammatical. As mentioned above, however, N *book* and PP *on the table* do not form a constituent. PP *on the table* is excluded from the range of one pronominalization. In (26), contrary to (25), *one* is intended to substitute for AP *red book*. Therefore, this structure can expect the grammaticality of (20). In (27), just like (26), *one* is intended to substitute for AP *lighted house*. *Lighted house* forms a constituent, so nothing prevents from this substitution. In (28), on the contrary, *one* substitution is ruled out even though *one* is intended to substitute for AP *lighted house*. This is because the higher segment is excluded from the substitution. *One* should substitute for the whole constituent. Therefore, structure (28) successfully expects the ungrammaticality of (22).

To conclude, Abney's analysis cannot explain the grammaticality of (18). This suggests that the position of PP *on the table* must be analyzed in different ways. In the following section, Campbell's analysis will be discussed.

*3.1.2 Campbell (1996)*

Campbell (1996) introduced a similar DP structure, which is illustrated in (29).

(29)

```
                DP
                |
                D′
              /    \
            D       ArtP
                   /    \
                 Art      AP
                        /    \
                    Adverb    AP
                            /    \
                          A       NumP
                                 /    \
                               Num      NP
```

(cf. Campbell, 1996)

This DP structure is different from the one introduced by Abney (1987) in the existence of Num(ber)P. Contrary to the substitution analysis above, Campbell (1996) claims that *one* pronominalization is one of the elliptical constructions and anaphoric *one* occurs in the Num position in order to license the omission of the nominal phrases. In this sense, anaphoric *one* serves as a functional category like an auxiliary which is required to allow a verbal phrase to be omitted (cf. (5))

Under this theory, example (18), (20) to (22) will be investigated as follows.

(30) the blue *one* (*one* = book on the table)
    [DP the [AP blue [NumP [NP [N *book*] [PP *on the table*]]]]]
(31) the *one* on the table (*one* = red book)
    [DP the [AP *red* [NumP [NP [N *book*] [PP on the table]]]]]
(32) a small *one* (*one* = lighted house)
    [ArtP a [AP small [AP *lighted* [NumP [NP *house*]]]]]
(33) a dimly *one* (*one* = lighted house)
    [ArtP a [AP dimly [AP *lighted* [NumP [NP *house*]]]]]


In (30), NP *book on the table* is omitted and *one* comes to Num position. This substitution can be explained in this structure. Contrary to (30), (31) expects it to be ungrammatical wrongly: in this structure, PP is considered to be include in the omitted NP, so this analysis predicts that PP cannot occur with *one* contrary to the fact. In (31), A *red* is excluded from the range of *one* substitution, namely higher than NumP. However, only *red book* is omitted and *one* comes to Num position. (21) would be ungrammatical under this theory. Similar to (31), (32) and (33) are ruled out under Campbell's theory. Adjectives, which is higher than NumP, cannot be substituted for with NP because it is always outside of the range of ellipsis in nominal phrases. Campbell's theory can only expect grammaticality in (18) and (22).

In conclusion, Campbell (1996) cannot expect the proper grammaticality when *one* substitutes for a noun with a premodifier, namely adjective. It can be concluded that both Abney's and Campbell's analysis are not adequate to analyze the inner structure of nominal phrases.

In addition, Cinque (2010) disagrees that adjectives are the head of the phrase and take NP as its complement. In the next section, Cinque's arguments against "NP as a complement of A" analysis will be summarized and compared with Abney's theory in that the relation between AP and NP.

*3.2 Another Problem with DP Analysis*

Cinque (2010) disagrees with DP analysis proposed by Abney (1987). According to Cinque (2010), prenominal adjectives are not heads but phrases. Cinque (2010) shows the evidence to prove this statement. Consider the example (34).

(34) *Norwegian*
   alt-for heit sterk kafee
   much too hot strong coffee

<div align="right">(Cinque, 2010)</div>

In (34), the modifier *alt-for (all too)* only modifies the adjective *heit (hot)*. It does not also modify the adjective *sterk (strong)*. This suggests that *alt-for* and *heit* compose a phrase. If adjectives were heads, the modifier *alt-for* would modify all adjectives *heit* and *sterk*. Cinque (2010) claims that this fact is the evidence that adjectives are not heads in the extended projection of the noun phrase but phrases.

Here, it is concluded that DP analysis proposed by Abney (1987) still has some problems with respect to the internal structure of the nominal phrase.

## 4. Conclusion

In this paper, general frameworks of *one* pronominalization have been summarized. Contrary to what Huddleston and Pullum (2002) proposed, it is not enough to conclude that *one* substitutes for the head of the noun phrase, namely N. Jackendoff (1977) and Radford (1988) stated that *one* substitution was the N′ substitution. After introduced DP analysis by Abney (1987), N′ substitution turned into NP substitution. It would appear that DP analysis can successfully explain *one* substitution as NP substitution.

However, Cinque (2010) analyzes this explanation still has problems in terms of the relation between AP and NP. It is required to conduct the investigation inside DPs to illustrate the appropriate structure of DPs.

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