

## Key Arguments for the Determiner Phrase Hypothesis

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**Abstract:** This short article aims to explicate some of the key arguments for the determiner phrase hypothesis (DP hypothesis). The goal is to show that within the framework of current formal syntactic analysis, the DP hypothesis is not an alternative but a mandatory hypothesis for a consistent valid syntactic analysis of the English sentence. The article builds on an inclusive notion of the category of determiner based on shared distributional features of its sub-categories. Key arguments for the DP hypothesis build around previous ones such as those made by Abney (1987) but mainly focus on new and fresh insights that take into account holistic and logical arguments and focus on the particular case of expletives as a unique type of determiners.

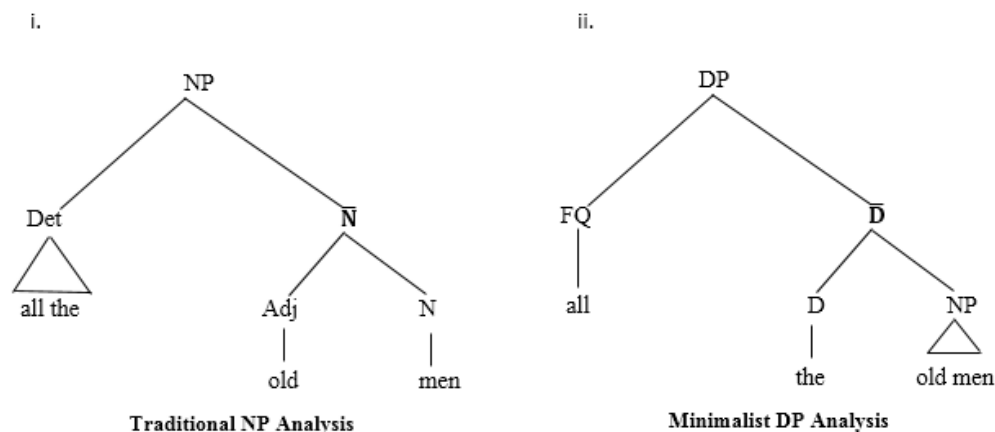
**Key terms:** Syntax- Determiner phrase hypothesis (DP)- Empty category- Head-Expletives

### I. Introduction

Research in syntax is extremely significant for understanding of both human language and human cognition. Syntax is a domain unique to ‘homo sapiens’. Whereas a number of species could master “lexical reference and engage with humans in a primitive form of protolanguage”, note Bickerton and Szathmáry (2009), “no member of any other species, however, has shown any capacity to acquire even a rudimentary syntax, and this capacity must therefore stand as one of the few true apomorphies of humans” (p. xiii). Yet, research in syntax is challenging. The syntactic theory is highly intricate and is always evolving. Since the publication of Chomsky’s seminal books *Syntactic Structures* (1957) and *Aspects of the Theory of Syntax* (1965), the syntactic theory has been in a steady state of change and development. Chomsky’s *Lectures on Government and Binding* (1981) and *Minimalist Program* (1995) paved the way to re-interpreting several syntactic concepts and terms and introducing new ones.

One of the recently introduced concepts in the long, diversified, and rich timeline of the traditions of syntactic analysis is the notion of the determiner phrase hypothesis (henceforth, DP hypothesis). This hypothesis claims that what we traditionally think of as a noun phrase (NP) [e.g., the old man] has the determiner as its head, not the noun. In this kind of analysis, the NP is in fact a complement in the DP. Radford (2009) succinctly states that within this hypothesis “all definite expressions have the status of DPs – not just nominals like *the president* which contain an overt determiner, but also proper names like *John*” (p. 454). The DP hypothesis was formally introduced in the MIT doctoral dissertation of Steven Abney (1987). Now, within the framework of minimalist syntax, this hypothesis has become the standard for syntactic analysis. The difference between these two analyses is illustrated in analyzing the phrase {all the old men} as shown below:

(1)



This article briefly explicates some of the key arguments for the DP hypothesis. The goal is to show that within the framework of current formal syntactic analysis, the DP hypothesis is not an alternative but a mandatory hypothesis for a consistent and valid syntactic analysis of the English sentence. The need to explicate

more arguments for the DP hypothesis stems from the significance of this notion. Bernstein (2001) observes that the DP hypothesis “resolves what was a theoretical inconsistency between the treatment of noun phrases and clauses. That is, according to this approach nouns, like verbs, project to a functional category” (pp. 537-538). Additionally, Coene and D’hulst (2003) sums the significance of the DP hypothesis as follows:

*The basic insights provided by the DP hypothesis have paved the way for fruitful line of research, engaged in unraveling the fine syntax and semantics of nominal constituents in area’s related to the typology of determiners, the relationship between determiners and nouns, adjectival modification, the expression of possession, the morpho-syntactic relationship between clitics and determiners, the status of number features and many more (p. 1).*

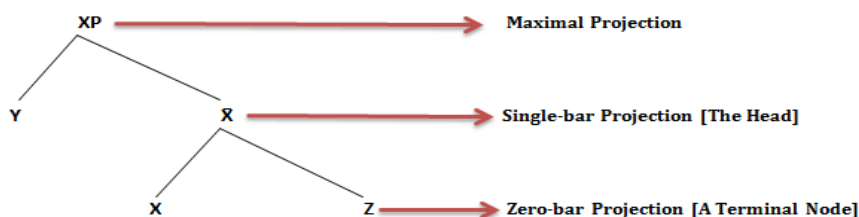
## II. Two Basic Principles in Syntactic Analysis

In order to get into the arguments for DP hypothesis, we first need to look into two of the basic principles of modern syntactic theory: the *headedness principles* and the *empty category principle* (ECP).

### 2.1 The Headedness Principle

This principle postulates that every nonterminal constituent in a syntactic structure is a projection of a head. The principle is illustrated by the diagram below:

(2)



The head [as a syntactic category] is the most important element from a grammatical point of view. There is some kind of consensus that the head of a phrase is “one of its constituents which in some sense dominates and represents the whole phrase” (Fraser, Corbett, and McGlashan, 1993, p. 1).

### 2.2 The Empty Category Principle

One of the recently introduced concepts in syntactic analysis is the notion of ‘**empty category principle**’ (henceforth ECP), proposed within Chomsky’s framework of government and binding theory (GBT). An *empty category* is assumed to be a universal syntactic constraint that requires traces to be properly governed. Proper government is defined as follows:

- 1) A **properly governs** B iff A **theta-governs** B or A **antecedent-governs** B.
- 2) A **theta-governs** B iff A **governs** B and A **theta-marks** B.
- 3) A **antecedent-governs** B iff A **governs** B and is coindexed with B.

(Chomsky, 1981)

ECP is fundamental to GBT: its major function is “to place constraints on the movement of categories by the rule of alpha movement; it effectively allows a tree structure to ‘remember’ what has happened at earlier stages of a derivation” (Trask, 2003, p. 90). Moreover, in GBT the ECP takes a broader meaning. Ludlow (2011) maintains that “one interesting element of GB was the Empty Category Principle (ECP), which accounted for subtle contrasts in the acceptability of a range of structures involving phonetically unrealized elements like trace and PRO” (p. 27). Many a linguist, however, attempts to isolate the concept of empty category as a distinct notion. For instance, Barbosa (1995) alludes to some of the problems of “theories that consider the empty category a variable or a trace” (p. 16).

In this article, an ‘*empty category*’ is assumed to be an *intrinsically* obligatory, functional skeletal position with no phonological material. This is essentially a restricted designation that excludes several syntactic phenomena such as *ellipses* and *traces*. Within the recent framework of syntactic analysis, this restricted designation of empty categories has a significant contribution to the development of the syntactic theory. Featherston (2001) argues that the notions of “these ECs permit the principles to hold universally and exceptionlessly and thus be credible candidates for inclusion within UG. The assumption of ECs is therefore necessary for PPT [principle and parameter theory] to allow it to aspire to explanatory adequacy” (p. 11). An

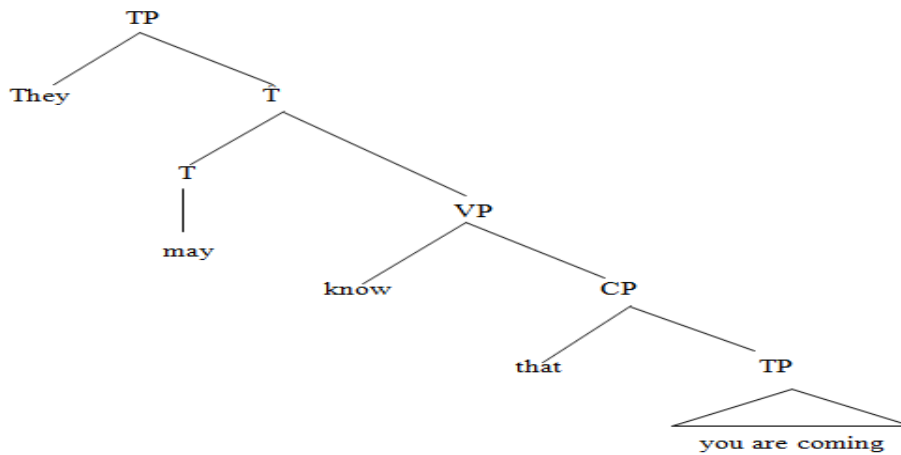
illustration of the notion of ECs through the case of an empty complementizer is shown in the tree diagrams below:

(a)

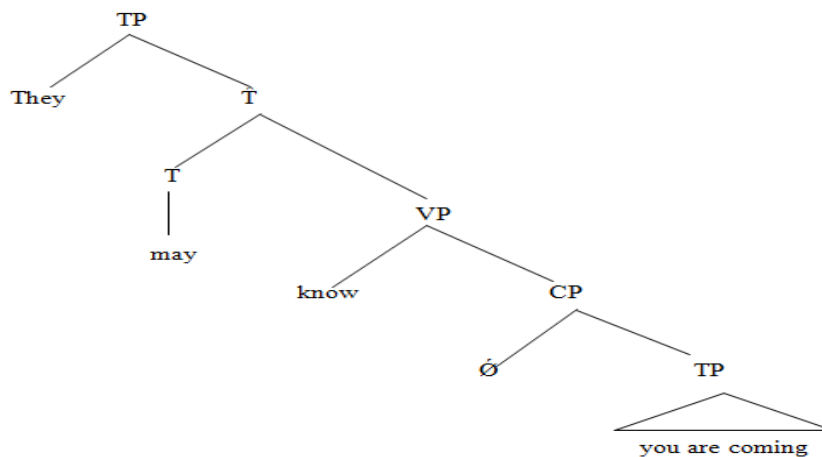
1. They may know (that) you are coming.
2. They may know ( $\emptyset$ ) you are coming.

(3)

i.



ii.



One of the basic intuitions in syntactic analysis is that only functional categories could be realized as empty categories. Generally, morphemes are categorized into functional (*including inflectional morphemes*) and non-functional or thematic (*including lexical and derivational morphemes*). Several differences are usually made between the two types (Abney, 1987, p. 43). However, as Abney (1987) succinctly puts it, “like all major grammatical distinctions, there is a substantial gray area between thematic and functional elements; ... and some items are very difficult to categorize at all” (p. 43). Yet, to me the only foolproof distinction is the criterion of empty categories. Whereas functional morphemes could be realized as null ( $\emptyset$ ) in some contexts, non-functional or thematic morphemes could not.

Nevertheless, even within the minimalist framework, some raise suspicion about the status and function of the ECP. Hornstein, Nunes, and Grohmann (2010), for instance, doubt the status of traces, PRO, null operators and even the ECP (P. 12). Krivochen, and Kosta (2013) suggest eliminating empty categories in a radically minimalist view altogether. Vicente (2000) cites Chametzky’s (2000) argument that a “true minimalist framework should be able to do without movement and, therefore, without traces.” Still, Vicente (2000) observes that Chametzky “does not tackle the question, though, of whether base-generated empty categories would be permissible in such a framework”.

### III. An Inclusive Designation of Determiners

Traditionally determiners are thought of as the articles ‘a(n)’ and ‘the’ which are given the symbol (Det). Demonstrative pronouns (this/that, these/those) are sometimes treated as determiners, too. In this article, a determiner (D) is seen as a **functional category** that includes diverse sub-categories which might have very few shared morphological or semantic features, but which in complementary distribution. Six types of determiners (D) could be isolated as below:

- 1) *Articles: a(n), the*
- 2) *Demonstrative pronouns: this/that, these/those*
- 3) *All other types of pronouns: [Personal, relative, indefinite, etc.]*
- 4) *Quantifiers: some, all, etc.*
- 5) *Possessive Inflection (‘s/s’)*
- 6) *Expletives: it, there*

The six elements listed above are in *complementary distribution* as the constructions below illustrate this:

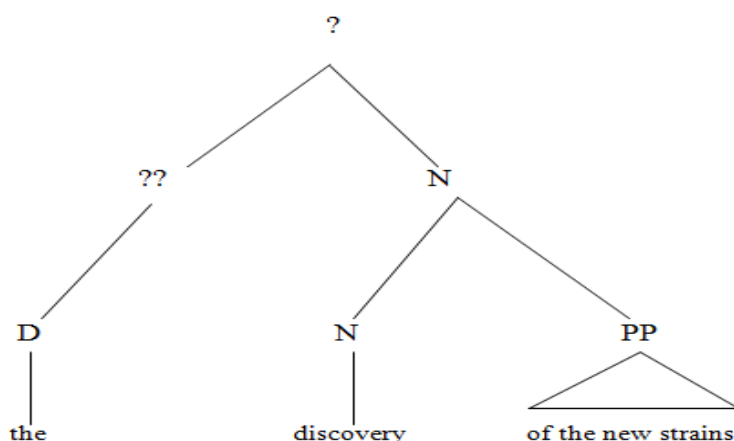
(b)

1. **The** cars are new.
2. **These** cars are new.
3. **My** cars are new.
4. **All** cars are new.
5. **Mona’s** cars are new.
6. **They** are new.
7. **There** is a new car here.

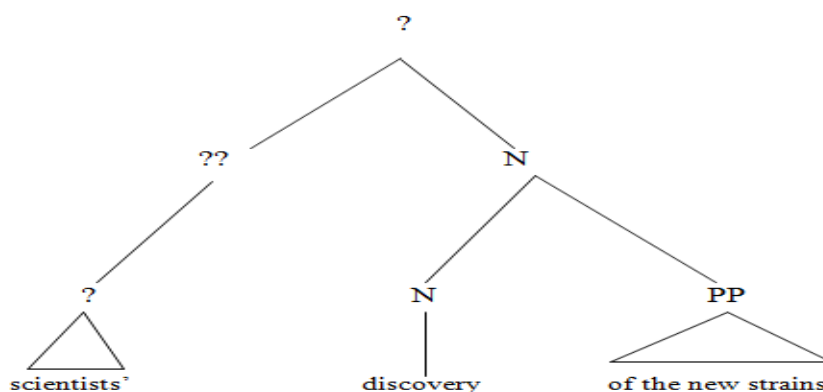
Regarding b.5, Haegeman (2006) observes that the possessive and the determiner are in complementary distribution as the “genitive NP and the determiner are inserted in the same position” (p. 113). This is illustrated by the two diagrams below:

(4)

i.



ii.



It seems implausible that a functional element like the determiner (**the**) and the phrase (**scientists'**) be in the same position without being under the same category. This is one argument that the D is not a part of the projection of the N (the noun phrase in the narrow sense) but that it is a *functional head* of its own projection, the DP (Abney, 1987).

#### IV. The Key Arguments for the DP Hypothesis

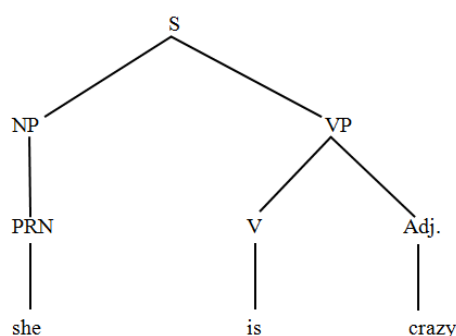
##### 4.1 The Syllogism from Personal Pronouns

Syllogism is a formal argument in logic that is formed by two statements and a conclusion which must be true if the two statements are true. In a syllogistic argument, a quantified statement of a specific form (the conclusion) is inferred from two other quantified statements (the premises). A syllogism is valid **iff** the conclusion follows logically from the premises: if the premises are true, the conclusion must be true. A common form of syllogism is below:

- |                          |                           |
|--------------------------|---------------------------|
| 1) <b>Major Premise:</b> | All <b>p</b> are <b>n</b> |
| 2) <b>Minor Premise:</b> | All <b>n</b> are <b>q</b> |
| 3) <b>Conclusion:</b>    | All <b>p</b> are <b>q</b> |

Traditional phrase structure rules (PS- rules) tackle structures such as (she is crazy) as below:

(5)



This kind of analysis treats pronouns as a variation of the NP. Traditionally, a pronoun is defined as a word that replaces a noun [N] or a noun phrase (NP). Nevertheless, this traditional definition violates basic grammatical intuitions. Syntactically speaking, a pronoun could not replace an NP. The logical argument that supports this contention could be put as follows:

- Functional categories cannot replace lexical categories.
- Pronouns are functional categories.
- Therefore, a pronoun cannot replace a lexical category.

A noun phrase is a lexical category and thus a pronoun cannot replace it. It must be replacing a DP, not an NP, for both the pronoun and the DP are functional categories. Additionally, in the case of pronouns, the notion of replicability itself is doubtful. Virtually, the majority of personal pronouns do not in fact replace any (N) or NP in the grammatical or semantic sense. Panagiotidis (2015) aptly observes that as some note that if the feature [N], which stands for nouns, is “about identity and if it is present inside pronouns, then it is hard to explain the workings of expletive pronouns, such as it in it rains. I have no coherent answer to this problem” (p. 86).

##### 4.2 The School Grammar Books’ Argument

Consider the constructions below:

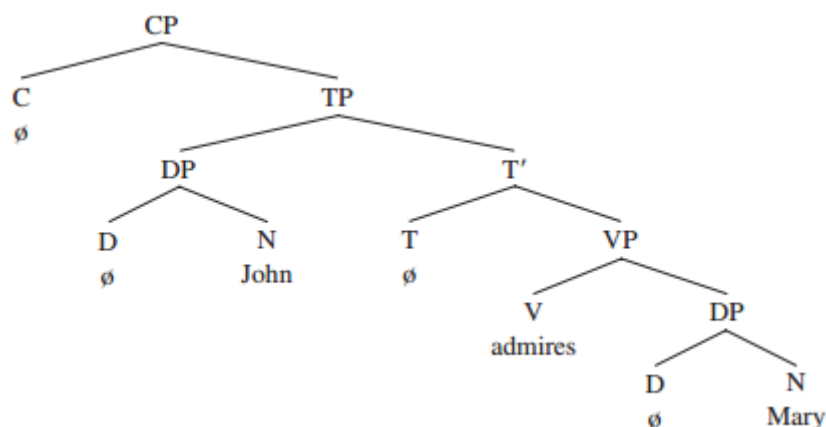
(c)

1. A man may live only fifty years.
2. Man invented a lot of tools to control his environment.
3. The man in blue came here yesternight.
4. \*Man in blue left today.

Why is the last sentence ungrammatical? If the noun were the head of what is traditionally thought of as an NP in PS-rules, then c.4 would be grammatical. But because the head of the first phrase is a determiner(D) which defines the functional property of indefiniteness is missing, c.4 is ungrammatical. The headedness

principle assumes that every syntactic construction must have a head. Then whenever a noun is there, a determiner must be present, overtly or covertly to function as a head. As shown below, even in the case of proper nouns and uncountable nouns, we need to hypothesize a null determiner [covert-  $\emptyset$ ] to maintain uniformity and account for basic grammatical principles.

(6)

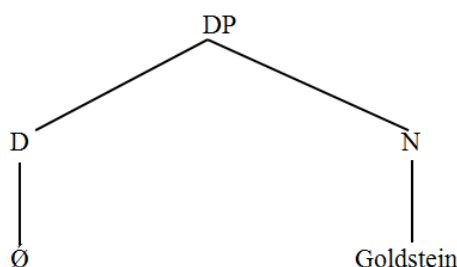


(Radford, 2009, 130)

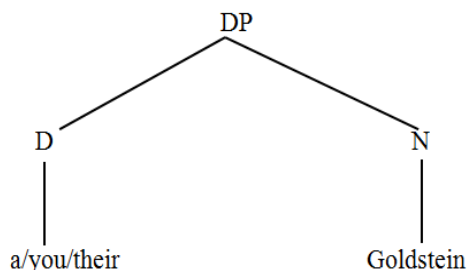
This seems to be a universal principle. Regarding “determinerless nominals (bare common nouns and bare proper nouns), a cross-linguistic typological generalization is proposed stating that proper nouns may occur without a phonetically filled D [with covert or null D]iff generic nouns may freely do so” (Coene, and D’hulst, 2003a, p. 40). Yet even in the case of proper nouns, a determiner could be used to fill in the empty category:

(7)

i.



ii.



Plus, studying determiners in the context of proper names from a cross-linguistic point of view provides evidence that “proper names have played an important role in the discussion surrounding determiners” (Ghomeshi, Paul, and Wilschko, 2009, p. 13). Ghomeshi, Paul, and Wilschko (2009) further argue that the DP hypothesis in the case illustrated from Radford above is “supported by the fact that in some languages names can be preceded by regular determiners as well as by the fact that names themselves can function as predicates” (p. 13). Additionally, analysis of languages “in which there is an overt determiner dedicated to names” indicates

that the patterns observed in such languages require the postulation of a feature [name] on nouns and a feature [proper] on determiners. On their analysis, the feature [proper] simultaneously encodes [singular] and [definite] and functions to turn predicates into arguments. The proposed analysis has implications for languages in which names are not preceded by an overt determiner. First, it leads us to expect that there is indeed a phonologically empty D specified for the feature [proper]. Second, it suggests that the determiners preceding names are not expletive (Ghomeshi, Paul, and Wilschko, 2009, p. 14).

However, one may argue that we could hypothesize a covert [ $\emptyset$ ] noun in structures such as *That is right* or *Some say the world will end in fire* (Newson, Hordós, Pap, Szécsényi, Tóth, and V. Vincze, 2006, p. 133). But evidence from the grammatical process of cliticization shows that this claim is invalid. Consider these structures:

(d)

1. That's right.
2. Some're coming here.

The fact that cliticization is possible in d. 1 and d. 2 suggests that there is no obligatory position for a noun between the determiner and the tense in a tense phrase (TP) and validates the hypothesis the N is not the head of what is traditionally thought of as an NP.

### 4.3 The Argument from Expletives

An expletive is an “element that may fill the surface subject position but does not receive a  $\theta$ -role from the predicate. English has two types of expletive: there and it” (Adger, 2002, p. 170). Expletives are essentially dummy determiners that perform a syntactic role but contribute nothing to meaning. They are semantically ‘empty’ but syntactically significantly rich.

(e)

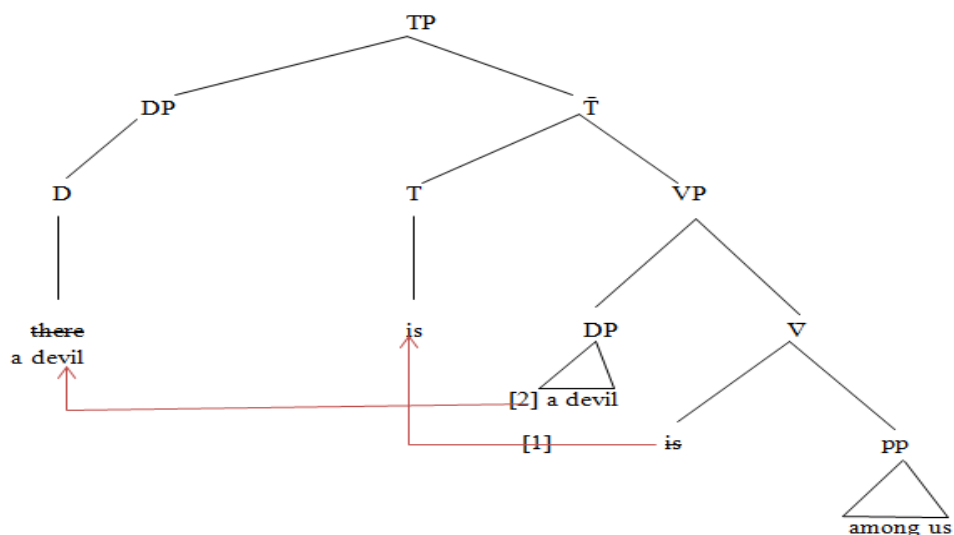
1. There is a devil among us.
2. Make it clear what you prefer.

It is a fact that the dummy pronoun [it], for instance, does not replace a noun or an NP. This is due to the absence of shared syntactic or semantic features between the two categories: expletives and nouns. Within the framework of minimalist syntax, expletives are determiners that head a DP. All other types of determiners are raised to this D-position as they all originate in the VP (VP-Internal Subject Hypothesis). Consider the case of these two constructions:

(f)

1. There is a devil among.
2. A devil is among us.

(8)



The relationship between f. 1 and f. 2 could clearly be seen in diagram (7). The second movement which produces the construction [*a devil is among us*] cannot be done unless we assume the phrase (*a devil*) is a determiner phrase (DP). The landing site as indicated in the diagram above is a DP, and for any movement to

occur, the original position of the item moved and the landing site must be identical regarding the function of both.

## V. Conclusions

Analysis made in the previous sections indicates that there are intuitive, simple, and valid arguments for the DP hypothesis besides all those postulated in the literature of minimalist syntax. The inclusive designation of the term 'determiner' makes it possible to overcome a lot of the counterarguments to the DP hypothesis. Plus, the logical argument based on the syllogism from class categories is highly significant here. There are three basic tests to categorize morphemes and words: the notional (semantic), the morphological, and the syntactic criteria. Of these three, the syntactic criterion is the strongest and most valid. It is on this syntactic evidence the syllogism presented in this article is based. The second argument which builds on the ungrammaticality of phrases that contain bare countable singular nouns is as valid as the first one. It indicates that there must always be a determiner in such constructions and makes it clear that the determiner, not the noun is the head. Finally, the case of expletives as briefly discussed in this paper makes it necessary to accept the DP as the most consistent and valid hypothesis regarding the controversy in question.

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