

**The formations of bare-stem, closed compound nouns in English****Faza Hannan Purinanda\***

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**ABSTRACT**

Compounding is one of the most productive types of word formation processes in English and arguably the most controversial one in terms of its linguistic analysis. This paper aims to describe the formations of bare-stem, closed compound nouns in English. This descriptive qualitative research is conducted by subclassifying the compound nouns into formations based on the word class of each element that constructs the compound. The result of the study shows that, firstly, there are thirteen formations from which bare-stem closed compound nouns can be constructed. Secondly, nouns, verbs, and adjectives can combine rather freely in compounding despite the patterns are not equally productive. This study also highlights the constraints in subclassifying compounds, which is a prevalent issue that scholars have widely recognized.

**Keywords:** English morphology, compounding, noun, word formation

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**Article history***Submitted:*  
21 December 2021*Accepted:*  
28 September 2022*Published:*  
30 September 2022

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**Citation (APA Style):**

Purinanda, F. H. (2022). The formations of bare-stem, closed compound nouns in English. *Diksi*, 30(2), 170-176. <https://doi.org/10.21831/diksi.v30i2.46269>.

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**INTRODUCTION**

Morphological processes are an essential part of a language that concerns with how words are formed. They function to make one word or inflection distinct from another so that its meaning fits its syntactic and communicational context. Some of the processes are concatenative, meaning that they involve the direct combination of morphemes, while the rest are non-concatenative, involving the internal alternation of morphemes. Concatenative processes include affixation, incorporation, and compounding while non-concatenative processes include reduplication, an internal modification, conversion, and back-derivation.

Beside affixation, one of the commonly used morphological processes is compounding. A compound word comes into existence by combining lexical elements into one new word (O'Grady et al., 2009). The elements can be characterized as words, roots, or lexemes (Hacken, 2017) and at least two roots are needed to form a compound (Tokar, 2012). Compounding borders on syntax and on affixation. However, since word formation and syntax are strictly separated and compounding is in word formation, it is crucial to draw this borderline precisely (Hacken, 2017). According to Bauer et al. (2015), compound words and phrasal words differ in "syntactic atomicity" (p. 432) and whether they are listed in the lexicon. Syntactic atomicity is an aspect that determines that words are uninterruptable units; therefore, another word or an affix would not be able to insert into a compound.

The importance of compounding arises from the fact that there are probably no languages without compounding; even in some languages, it is the major source of new word formation (Scalise & Forza, 2016). In the context of the English language, compound words have been an integral part of the English lexicon and everyday use. Even, Kavka (2011) notes that compounding has always been very productive throughout the history of the language. English is a mostly analytic language; hence compound words are created by concatenating words without case markers (Plag, 2003). Long compounds generally contain spaces, while short compounds are written in three different ways: closed or solid (e.g. *redneck*, *scarecrow*), hyphenated (e.g. *long-term*, *sun-dried*), and open or spaced (e.g. *living room*, *ice cream*).

Given its importance in the field of morphology, numerous experts have attempted to describe compounding using several approaches, resulting in various degrees of depth and extent. From a semantic point of view, Scalise & Bisetto (2009) make a distinction between endocentric and exocentric compound words. According to Stefanovski (2007:166-167) in endocentric compounds, one or both of the elements are the head of the compound, so either one of the elements modifies the other or both of the elements equally play a role in forming the meaning of the compound (e.g. *artwork, highway, heartbeat*). This is where the righthand head rule is usually discussed. In the exocentric compounds, neither of the elements is the head of the compound and its meaning is beyond the meaning of the elements of the compound (e.g. *scarecrow, breakfast, hangnail*). Generally, compounds are classified according to their function in sentences i.e. as a noun, a verb, an adjective, etc. Further subclassification is where the approach differs. Bauer et al. (1983) note several ways in how the subclassification of compounds is done: by the form classes of the items that make up the compound, by semantic classes, by presumed underlying operators linking the two elements, by presumed underlying syntactic function, and so on. Many scholars also use a combination of the methods. Understandably, the subclassifications result in varying degrees of complexity. To highlight such difference in degree, Bauer et al. (1983) mentions that Brekle (1970) and Hatcher (1960) both use semantic classifications for compound nouns. Hatcher has only four categories, while Brekle has about one hundred.

On a much smaller scale, numerous types of research on compound words have been done throughout the years and differ only in the perspectives or boundaries. For instance, the compound words for the data are from books (Dewi et al., 2020; Wibowo, 2014), movies (Fithriyani, 2019; Rahmawati & Haryanti, 2020), and news articles (Rahayu et al., 2016; Yusuf et al., 2017). However, a similar research article that analyzes English compound words descriptively is that of Christianito (2020) despite the scope being too wide; hence the overgeneralization. As few have attempted to describe English compound words in detail, this study aims to describe the formations of closed compound nouns in the English lexicon. Despite the aforesaid boundaries of only using closed compound nouns as the data, it is essential to mention that the compound words to consider in this study are only bare-stem ones. Hence, closed compound words that are formed into nouns by suffixes e.g. *dishwasher, bystander, or handwriting* are not included.

## METHOD

The design of this study is descriptive qualitative research. As stated by Gay (1999), descriptive research involves collecting data in order to test hypotheses or answer questions related to the current status of the object of the study. A descriptive study happens naturally, has no control over the condition, and the situation only measures what already exists.

The data of this study are English closed compound words retrieved from the dataset of LADEC (Large Database of English Compounds), which consists of over 8000 English words that can be parsed into two constituents that are free morphemes (Gagné et al., 2019). The data were then corroborated with Oxford Advanced Learner's and Merriam-Webster online dictionaries in order to determine their existence within the standard English lexicon. After that, the data were identified by their constituents' word class and subsequently classified in accordance with the categories of formation.

For data analysis, the adaptation of the theory proposed by Miles et al. (2018) was used. First, there was data condensation where the closed compound nouns that had been collected were categorized according to the word class before being categorized again into more specific categories. Second, there was a data display where the closed compound nouns were displayed. Third, there was a description where the closed compound nouns with similar characteristics were described. Fourth, in conclusion, the formation and characteristics of closed compound words in English are made.

## RESULTS AND DISCUSSION

### Results

After the analysis where closed compound nouns are categorized based on the word class of the two constituents, it can be concluded that there are thirteen possible formations of bare-stem, closed compound nouns. It is clear that one formation may be more productive than the others, and

considering that the data only consisted of closed compounds, it is possible that formations with few entries in closed compound nouns may have various others in different forms or lexical categories.

#### ***Adjective + Adverb***

In this type, a compound noun made of an adjective and an adverb, combined with a single stress on the first element, is used to denote an object or a condition which has, possesses or is characterized by its first element. The relationship between the thing characterized and the expressed in this formation is rather vague. However, as some experts pointed out (e.g. Plag, 2003: 146), while these compounds are semantically exocentric, they are nevertheless morphologically headed: in *blackout* and *whiteout*, *black* and *white* modify *out* (in the sense of going to the full or a great extent or degree), and in *roundabout*, *round* modifies *about* (in the sense of many different directions). The following are samples of sentences using the compound nouns above.

#### ***Adjective + Noun***

It can be difficult to decide whether an adjective + noun collocation is a compound or simply a noun phrase. Besides syntactic atomicity and its existence in the English lexicon, a compound noun and a noun phrase can also be distinguished by the stress (Bauer et al., 1983). An adjective + noun compound has the stress on the adjective while a noun phrase has the stress on the noun. Adjective + noun phrases are frequently turned into compounds by a change in stress.

Despite the formation being productive, the range of adjectives that can occur in this formation is very limited: most of them are monosyllabic and of Germanic origin, although there are some disyllabic early Romance loans, too, as in *doubletalk*. Each compound is used to denote an entity which has, possesses or is characterized by its first element. Semantically, it is apparent that this formation can include both endocentric compounds, as in *deadbolt*, *freestyle*, *freshwater*, *hotspot*, *blackboard*, *drywall*, *flatboat*, *software*, *highland*, *greenhouse*, *goodwill*, *broadaxe*, and exocentric ones, which include *outlaw*, *lowlife*, and *doubletalk*.

The high proportion of lexicalized adjective + noun compounds is an indication that this type of compounding is not nearly as productive as noun + noun compounding. However, the interpretation of these compounds largely follows the modifier-head pattern encountered with noun + noun compounds.

#### ***Adverb + Noun***

This is a rather restricted pattern, partly because only adverbs of time or place occur in such compounds. The main constraint in determining this formation is that several adverbs could alternatively be interpreted as adjectives that are formed by conversion. The compounds show that the noun as the second element is given a further characteristic of time (*afterlife*, *afternoon*), place (*background*, *downtown*, *uptown*, *outline*), or condition (*downhill*, *downgrade*, *overdose*, *outcast*, *uproar*) by the adverb as the first element.

#### ***Adverb + Verb***

In this formation, a compound noun is made of an adverb and a verb which can be argued as the result of an inversion process. Nevertheless, the compound has its stress on the first element and denotes an object or a condition as the second element whose character is either defined or amplified by its first element. The notion that the first element defines the second element to create a semantically novel compound noun can be found in *download*, *outbreak*, *output*, *offspring*, and *outcome*. Meanwhile, the rest can be seen as the first element amplifies the second element as in *backlash*, *downfall*, *downpour*, and *outburst*.

#### ***Noun + Adjective***

Regarded as not productive, especially in closed form, there are only several entries that can be regarded as noun + adjective formation. Even so, some have been rarely used in recent times. All of the adjectives in the formations are those of colors. Colors give a certain apparent characteristic, hence most of the following compound nouns are proper nouns for plants and animals, characterized by the nominal first element which defined by the color. This notion can be found in *wintergreen*,

*bobwhite*, *lintwhite*, and *lampblack*. As in *bootblack*, it refers to the object and what to expect of the object i.e. someone who shines shoes ought to make boots black.

#### ***Noun + Adverb***

This formation is one of the instances where the notion that righthand head rule is a universal principle of morphology becomes the subject of criticism because there are numerous cases where the head does not appear in the righthand position. Noun + adverb formation to form closed compound nouns is indeed not productive, especially when it can be argued that the noun in the first element can be regarded as a verb while the adverb sitting in the second element can be regarded as a preposition. A typical compound noun in the formation has second element that characterizes the noun in the first element. This idea can be seen in *wherewithal* and *coverall*. Another instance, in *flameout*, the *flame* is *out* (in the sense of to the point of cessation) while in *campout*, the *camp* is *out* (in the sense of into the open). The adverb *up* in *lineup* and *markup* also has different sense to it, one being 'into operation' while the other being 'into a higher level,' respectively.

#### ***Noun + Noun***

This formation is the largest or the most productive formation of compounds not only of compound nouns, but compounds in English as a whole. The majority of compounds in this class are endocentric. The first group in this formation is made up of exocentric compounds. The pattern of noun + noun exocentric compounds is very restricted in productivity, but a few examples are found: *hatchback* and *bellwether*. The second group is made up of endocentric compounds. Within this category, the compounds made up of two common nouns. This is by far the most productive type of compound. Typically, the first element provides specification or further classification in usage, function, type, or characteristic. The examples illustrate something of the range of the semantic relationships that can hold between elements: *airshow*, *bedrock*, *countryman*, *deathbed*, *doormat*, *airflow*, *artwork*, *backpack*, *ballroom*, *headlight*, *eyesight*, *teaspoon*, *homestead*. Finally, as Bauer (1983) noted, the difficulty in specifying the precise meaning relationship linking the elements of the compound should be acknowledged.

#### ***Noun + Verb***

As found in different categories, there is the problem of knowing whether the second element is a noun or a verb in this formation. However, there are established examples which seem to fit this pattern. The pattern appears to be productive compared to other formations, but this may be because the second element is usually interpreted as a noun.

The resulting meaning of the combination of two elements is largely unpredictable. The meaning relation between the two parts is different in each case. For instance, *snowfall* is an instance where snow literally falls but in *nightfall*, the night metaphorically falls as in dusk. However, there is one constant in the meaning relation between the left-hand and right-hand parts. In all cases, the whole compound is an instance of the class of things that the right-hand part of the compound refers to. Therefore, *sunshine* is an instance where the sun shines, *chairlift* seems like chair being lifted, so the similar endocentric notion can be found in *butterfly*, *manhunt*, *earthquake*, *haircut*, *heartbeat*, *firefly*, *heartbreak*, and *nosebleed*. The rest have a more exocentric interpretation despite having close relation with the two elements. For instance, *carwash* is a place to wash cars, *doorstop* is a device to stop doors and *cowlick* is a tuft of hair that looks as if a cow licks it.

#### ***Preposition + Verb***

In this formation, a compound noun is made of a preposition and a verb which can be argued as the result of an inversion process. It can even be argued that the first element is not even a preposition but instead an adverb but Bauer (1983:206) signifies the distinction between the two lexical categories. Nevertheless, the compound has its stress on the first element and denotes an object or a condition as the second element whose character is either defined or amplified by its first element.

The relationship between the thing characterized and the expressed in this formation is rather reasonable, especially when inverted. For instance, a *bypass* is 'a road to pass by a town,' an *onrush* is 'an instance of rushing on,' an *onset* is 'an occurrence of setting on' (attack someone violently),

and an *intake* is a case where ‘something takes in fluid’. To clear the doubt whether this formation does exist, it is apparent that compound nouns in this formation is very limited but some other examples can be found as compound verbs e.g. *undercut*.

### **Preposition + Noun**

Preposition-noun compounds are of the modifier-head structure and mostly involve the prepositions *by* and *under*. A compound noun in this formation is formed by a noun as the second element that is given a certain prepositional characteristic by the first element. For instance, *by* in *byproduct* and *byway* is in the sense of ‘secondary importance.’ Meanwhile, preposition *in* that can be found in *inmate* refers to function word to indicate ‘inclusion, location, or position within limits,’ hence it is used for those incarcerated in jail or hospital. Finally, the most common preposition in this formation is *under*, which means ‘in or into a position below or beneath something’ and can be seen in *underground*, *underworld*, and *underbrush*.

### **Verb + Adverb**

The majority of words of this form are nominalizations of phrasal verbs. There are, however, a number of such formations which are not derived from phrasal verbs, although they maybe coined by analogy with phrasal verbs. This formation is relatively productive, despite the limited varieties of adverbs being used. Most of the adverbs being used as the second element are prepositional adverbs. The adverb *out* is often used in this formation, as in *blowout*, *burnout*, *checkout*, *lookout*, and *takeout*. Other adverbs include *down* e.g. *breakdown*, *countdown*, *crackdown*; *up* e.g. *buildup*, *checkup*; and *back* e.g. *comeback*, *flashback*.

### **Verb + Noun**

Verb + noun formation follows the same interpretative mechanisms as noun + noun and adjective + noun compounds. Apart from the few semantically exocentric compounds, there are also a small number of endocentric verb + noun compounds. According to Plag (2003), unlike exocentric compounds, the right-hand element in endocentric verb + noun compounds is not an argument of the verb, but acts as a head which is modified by the initial verbal element.

There are two distinct patterns of compound nouns in this formation. The first is where the noun is the direct object of the verb. These compounds are all exocentric. This type can be used for denoting people as in *pickpocket*, or denoting objects as in *breakfast*, *dreadnought*, *scarecrow*, and *hangnail*. This pattern for denoting people is still relatively productive, especially in informal situations. The second pattern is where the noun is not the direct object of the verb. These compounds are all endocentric, and the pattern is definitely productive. The compound nouns in this pattern include *catchphrase*, *playtime*, *driveway*, *password*, *pushcart*, *blowtorch*, *counterattack*, *crankshaft*, *hacksaw*, and *pickaxe*.

### **Verb + Verb**

This pattern is extremely rare, and probably not productive, especially in the form of closed compound noun. This is apparent enough as there is only one entry that can be safely included in this formation: *hearsay*. As with other formations, the difficult aspect to determine whether a compound noun belongs to this formation because conversion happens regularly in English. Hence, only one entry is clear enough to prove that verb + verb forming a compound noun exists. Nevertheless, verb + verb formation can also be seen in hyphenated compound verbs e.g. *freeze-dry* and *make-believe*.

### **Discussion**

As insinuated, the regular way of classifying compounds is by the function they play in the sentence as a noun, a verb, an adjective, etc., before further subclassification is done in many different ways with a greater or lesser degree of intricacy. As a result, any approach in subclassification is “bound to be controversial,” (Bauer et al., 1983:202) and not all parties could agree upon. This recognized difficulty did indeed happen during the subclassification of closed compound nouns into possible formations.

One of the prevalent constraints in categorizing compound nouns into formation categories is deciding the word class of each lexical element. The problem happens as numerous English words

do not go into the affixation process to derive the word class into other ones. In other words, they go through zero derivation or conversion. For instance, the word *back* could be used as a noun, an adverb, an adjective, and a verb in a sentence, all with relatively similar definitions which differ only in syntactical use. In categorizing the compound nouns, some are easier to decide than others because the difference in word class may lead to different definitions. For instance, the compound *undercurrent* at first glance may be seen as adverb + adjective compound noun. However, *current* in *undercurrent* is a noun (a tidal or nontidal movement of lake or ocean water) instead of an adjective (occurring in or existing at the present time). On the contrary, *campout* is more enigmatic as *camp* might be a noun (a group of tents, cabins, or huts) and a verb (to live temporarily in a camp or outdoors), both of which are comparable.

To highlight the difficulty of such analysis, there have been cases where scholars' arguments are not in line with each other as well as plain errors happen in less substantial research articles. For example, Bauer et al. (1983) make a distinction between particle + noun and adverb + noun compounds despite being unsure as "the particles can also be interpreted as adverbs" (p.206). Meanwhile, Plag (2003) considers both formations as preposition + noun. Another instance is how Bauer et al. (1983) include verb + particle as one of the formations of a compound noun, while Plag (2003) does not consider the formation as a part of compounding at all. Regarding student-level articles, a paper from Yusuf et al. (2017) determines that a compound noun can be formed using verb + adjective. However, the example provided for the particular formation is *breakfast* which is unseemly as *fast* in *breakfast* is supposed to be a noun (the practice of abstaining from food) instead of an adjective (able to move rapidly).

Finally, despite the system of classification being used here seems to be one of the simplest approaches, because of the amount of conversion in English, it is not always clear what form class a particular element belongs to. Compounding is the most productive type of word formation process in English (Adams, 1973), and interestingly, it is perhaps also the most controversial one in terms of its linguistic analysis. Plag (2003) is able to sum the matter perfectly: "compounding is a field of study where intricate problems abound, numerous issues remain unresolved and convincing solutions are generally not so easy to find" (p.169).

## CONCLUSIONS

Two conclusions can be drawn from this study based on the findings and discussion above. Firstly, there are thirteen possible formations from which bare-stem closed compound nouns can be constructed: adjective + adverb, adjective + noun, adverb + noun, adverb + verb, noun + adjective, noun + adverb, noun + noun, noun + verb, preposition + verb, preposition + noun, verb + adverb, verb + noun, and verb + verb. Secondly, nouns, verbs, and adjectives can combine rather freely in compounding. However, not all of these patterns are equally productive and there are severe restrictions on some of the patterns.

Furthermore, this study highlights the constraints in subclassifying compounds, which is a prevalent issue that scholars have widely recognized. Therefore, it is important to ascertain both the word class of compound words and the two elements that construct them before categorizing them further. Some may be much more intricate than others but generally the dictionary entries are helpful to determine the class they belong to. Also, considering the amount of manual work, it is recommended that the next researches instill English compound database, preferably annotated, or find a way to simplify the data collection and categorization process.

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