



## MORPHOLOGICAL AND SEMANTIC ANALYSIS OF HYPHENATED WORDS IN ENGLISH

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### ABSTRACT

*Hyphenated compounds have largely been neglected in the studies of compounding, which have seldom analysed compounds in context. In this study, we argue that the hyphen use in compounds is strongly motivated. Hyphenation is used when words form a unit, which reduces the possibility of parsing them into separate units or other forms. The current study adopts a new perspective on contextual factors, namely, which part of speech (PoS) the compound as a whole belongs to and how people correctly parse a compound into a unit. This process can be observed and analysed by considering examples. This study therefore holds that hyphenation might have gradually become a compounding technique that differs from general compounding principles.*

Hyphenated compounds. The majority of studies of compounding have analysed compounds without context and have seldom considered the PoS perspective. The previous studies mentioned above analysed only the PoS of each component in a compound while ignoring the function and use of the compound in its context. Since a compound is still a word that works within a sentence, the PoS should be an important characteristic within it. This study is mainly concerned with the PoS of hyphenated compounds as a whole and examines the core features of these compounds according to the PoS to which the entire compound

belongs (rather than according to the PoS of its components). We focus on hyphenated compound adjectives, hyphenated compound nouns and hyphenated compound verbs.<sup>1</sup> Concerning the PoS of hyphenated compounds as a whole, we can further explore the characteristics of these compounds by considering the contextual factors. The use of hyphenation in compounds is prone to a) violating right-headedness or frequently used syntactic order and b) avoiding ambiguity, which can in turn influence the use of hyphenation. Most hyphenated compounds violate the principles of right-headedness, syntactic order, or both. We also find that



using hyphenation in these compounds helps readers parse two or more words into one unified combination. Without hyphenation, there is a high risk of ambiguity; that is, two or more words might be parsed into the components of other syntactic elements within a sentence. For this reason, we emphasize the influence of context on compounds. Once such a unit including a hyphen is parsed into a compound, its composition mechanism usually does not abide by the principles of right-headedness, syntactic order, or both. In the following, we discuss the three types of hyphenated compounds according to their PoS and explain their characteristics on the basis of the aforementioned factors.

Hyphenated-compound adjectives  
Hyphenated-compound adjectives can be classified into three types according to their respective components: a) ADJ+NOUN/ADJ/VERB: “long-term, high-tech, high-quality, low-income; red-hot; twofaced, good-looking, better-placed, sure-fire”, etc.; b) NOUN+ADJ/VERB/NOUN: “ice-cold, sky-high, coal-black, oil-rich, snow-blind, life-preserving, labour-saving, time-consuming, record-breaking, part-time”, etc.; and c) Phrasal compound: “black-and-white, state-of-the-art, wellto-do”, etc

From the PoS perspective, the hyphenated compound types of ADJ+NOUN/VERB or NOUN+VERB cannot be treated as ADJECTIVES according to the principle of right-headedness, because their right heads are not adjectives. Thus, if a “head” in a compound is NOUN/VERB, then the entire compound should be a NOUN/VERB according to right-headedness. For instance, the compounds “long-term, high-tech, high-quality, low-

income, and good-looking” cannot be treated as adjectives because their right heads are nouns/verbs (“term, tech, quality, income, and looking”). However, with the use of hyphenation, the entire compound can work as an adjective. As mentioned above, violating either principle (the head is on the right, and a whole acquires its semantic and syntactic information from its head) of right-headedness means breaking the rule of right-headedness. Hyphenated compounds thus violate the principle of right-headedness

Hyphenated-compound nouns  
Hyphenated-compound nouns can be simply classified into two types as follows: a) NOUN + NOUN/ADJ/VERB: “actor-manager, major-general, decision-making, president-elect”; and b) VERB + ADV/PREP: “take-off, sell-out, wrap-up, sit-in”.

The relationship between “actor” and “manager” is coordinated such that there is no head for this compound. “Decision-making” and “president-elect” could have the normal order of “making [a] decision” and “elected president”, respectively. They violate the rule of syntactic order. Hyphenation helps readers to analyse two words as one unit, which reduces the possibility of parsing them into two separate units or other forms in the context. For instance, “decision making” without hyphenation could be interpreted as “the decision makes something happen”. Other compound nouns with ungrammatical combinations require hyphens, such as the ADJ + VERB type, e.g., “double-tune, free-associate”. Furthermore, we often see a “PREFIX + NOUN” type, e.g., “T-shirt, X-ray, ex-wife”. This type is not considered in this study.



Note that one type V þ ADV/PREP combined by hyphenation works as either noun or adjective. When a hyphen is not inserted into such a verb phrase, the combination of the phrase can hardly be treated as noun. As a result, the PoS of type V + ADV/PREP does not derive from right-headedness because their right heads are not nouns (“-off, -out, -up” are not nouns). For instance, “drive-in” is originally a verb phrase, but it acts as a noun after a hyphen is inserted. The combination violates the principle of right-headedness because it has no noun at all

Hyphenated-compound verbs These compounds mainly include: NOUN/VERB/ADJ + VERB, such as “lip-read, bottlefeed; window-shop; stir-fry, freeze-dry; dry-clean”.

For some compound verbs in this category, the normal order could be VERB + (or other elements) + NOUN, such as “shop (at the) window, read (by watching) lips, feed (with the) bottle”. When the order is reversed, hyphenation becomes useful because it can help readers treat the combination as a new unit. Following traditional compounding methods, this combination would not be analysed as a compound. When the two verbs “stir” and “fry” are combined, they are coordinated, which means that there is no head in this compound. In this sense, it becomes fairly important to use hyphenation in a coordinated structure if they need to be combined as a compound. When “dry” is an adjective, its direct combination with the verb “clean” is rare. In contrast, the right head in “underestimate” is the verb “estimate”; thus, the compound abides by the principle of right-headedness and a hyphen seems to have little use in such a

compound. Generally, these aforementioned combinations would be unlikely to be parsed as compounds without the use of hyphenation

## Conclusion

This study adopts the following two new perspectives that have not been considered in the academic literature: contextual factors (the PoS to which a compound as a whole belongs and how people correctly parse a compound into a unit) and the diachronic frequency of hyphenated compounds. Through quantitative and diachronic investigations of hyphenated compounds in English from three databases, we verified the hypothesis proposed in this study. Hyphenation has gradually become a compounding technique from a diachronic perspective. Hyphenated compounding, as a useful morphological technique, has been widely applied by readers. This fact has unfortunately been ignored and underestimated in past studies. We found that the change in the frequency of hyphenated compounds basically follows the S-curve model of language changes. Furthermore, hyphenation in compounds is likely to be preserved in language. However, hyphenated expressions tend to lose their hyphens when language users become familiar with them. Since the use of hyphens in compounds is strongly motivated rather than being used randomly, hyphenation in compounds has become prevalent over the course of history, or in some cases, hyphenation in hyphenated expressions has been abandoned for reasons of economy. We also developed an adequate account of why hyphenation is useful for language users. From the perspective of discriminative learning, hyphenation works



as a discriminative cue and thus helps people unconsciously know that these hyphenated combinations are quite different from common compounds. Because it helps in achieving communication efficiency to some extent, hyphenation in compounding can increase productivity and convenience.

In the future, more quantitative investigations will be conducted to compare hyphenated compounds and the other types

of compounds while considering additional parameters, such as the lexical family size, semantic similarity between components, and semantic neighborhood. Such studies might provide direct evidence that demonstrates the difference between hyphenated compounds and other compounds and that reveals how native speakers process hyphenation in compounds differently.

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