

A Corpus-Based Analysis of *-like* and *-free* with Proper Names

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Abstract. This paper presents a corpus-based analysis of two productive affixes *-like* and *-free*. It investigates how frequently *-like* and *-free* are combined with proper names in spoken English as presented in COCA (Corpus of Contemporary American English). It provides semantic readings of 25 utterances which are structurally and conceptually interpreted in terms of schemas. By applying the compositional model of Relational Morphology (RM), *-like* and *-free* are formally presented as declarative schemas which allow for proper names as their variables. It is shown that the utterances share the same core meaning which comes from our understanding of the world via conceptual schemas: the LINK schema for the utterances with *-like*, and the negation of the CONTAINMENT schema for the utterances with *-free*.

Keywords: *-like* · *-free* · Proper names · Semantic reading · Schemas

1 Introduction

In word-formation studies, *-like* and *-free* are discussed as productive elements deriving adjectives with highly compositional meanings e.g. *childlike* means resembling, suggesting, or appropriate to a child or childhood, and *sugar-free* means not containing sugar¹. Both elements have sparked considerable interest among linguists regarding their semantics and formal classification; *-like* has been compared to the simulative suffixes *-esque*, *-ish*, *-ly*, *-oid* and *-y* [1, 4, 8], and *-free* has been contrasted with the privative suffix *-less* [6–8]. The fact that their meanings are related to other suffixes makes them eligible for the morphological status of an affix [1, 6–8], but their status as independent words and unrestricted productivity makes them equally suitable for the morphological status of a compound element [4, 5, 14]. Given that the focus of this study is the semantic analysis of *-like* and *-free* with proper names, the two elements are considered as affixes in this paper².

Proper names are traditionally considered to be unacceptable as derivational

¹ The dictionary meanings are taken from <https://www.merriam-webster.com/>. The dictionary entry *childlike* also provides a further explanation that the word is especially marked by *innocence*, *trust*, and *ingenuousness*.

² This was helpfully suggested by an anonymous reviewer of the first draft.

units in the derivational literature. For example, Lehman and Moravcsik [13] offer **alpless* as an example of an impossible derivative as opposed to *mountainless* which is a probable word since it has a common noun as its base. However, more recent descriptive accounts show that a lot of affixes can be productively used to derive words with proper names [4]. Arnaud [3] argues for the feature that he calls “the nounness of proper names”, seeing that proper names are very similar to common nouns as they denote a concrete entity with an outside surface. He also reminds us that linguistic information and encyclopedic knowledge are not separate in Cognitive Linguistics and draws our attention to a matter of activation in context. Another strong indicator of their nounness is the fact that proper names can undergo morphological processes of inflection, derivation, conversion, compounding, blending, and shortening, which has not gained much attention in the literature [3].

Knowing that *-like* and *-free* are productive affixes and proper names may undergo derivation, the present paper investigates how frequently *-like* and *-free* are combined with proper names in spoken English as presented in COCA (Corpus of Contemporary American English). The main reason for choosing the spoken genre lies in the presumption that these utterances are probably created spontaneously in interaction, and that their meanings can be readily interpreted in immediate context.

The semantic readings of 25 utterances are formally presented within the theoretical framework of Relational Morphology (RM). Following the RM key tenets, the two productive affixes *-like* and *-free* are described as declarative schemas, and proper names represent their variables. The purpose of using schemas is to examine whether the utterances with proper names as variables can be directly linked to *-like* and *-free* schemas.

2 Background

2.1 Theoretical framework: Relational Morphology

As a mentalist approach to linguistic structure, Relational Morphology (RM) was developed with the aim of explaining morphological patterns and idiosyncrasy, the structure of the lexicon, and language in the human mind [10]. RM relies on cognitive principles in redefining “rules of grammar” as declarative schemas which replace traditional restrictive rules [9]. Declarative schemas have a dual role: relational, which shows direct links of all items produced by a single schema, and generative, which is activated in creation of new words. All generative schemas allow for open slots or variables (traditionally bases). This is further demonstrated in formal representations of *-like* and *-free* as declarative schemas.

2.2 Formal representations of *-like* and *-free*

For the purpose of providing formal representations of *-like* and *-free* in RM, *childlike* (1) and *sugar-free* (2) are used as examples³:

(1) Semantics: a. CHILD₁ b. [RESEMBLING(CHILD₁); INNOCENT]₂
Morphosyntax: a. N₁ b. [AN₁aff₃]₂

(2) Semantics: a. SUGAR₄ b. [NOT CONTAINING(SUGAR₄)]₅
Morphosyntax: a. N₄ b. [AN₄aff₆]₅

A co-indexing notation is used to formally display interface links between the semantics and morphosyntax of the whole words e.g. the links co-indexed with 1 show the lexical item *child*, the links co-indexed with 2 the lexical item *childlike*, the links co-indexed with 4 the lexical item *sugar*, and the links co-indexed with 5 the lexical item *sugar-free*. In case there is an idiosyncratic part of the complex word, which is not linked to the variable, it is provided in its semantics e.g. [INNOCENT] for *childlike*.

As new words are generated by declarative schemas, co-indices 3 and 6, which show the morphosyntax of the affixes *-like* and *-free*, will appear in every instance of *-like* and *-free* schemas e.g. *womanlike*, *businesslike*, *fat-free*, *gluten-free* etc. The two schemas containing co-index x , which signals a variable X, and co-index y , which marks a relational link to other words with the same structure, are shown in (3) and (4):

(3) Semantics: [RESEMBLING(X _{x})] _{y}
Morphosyntax: [AN _{x} aff₃] _{y}

(4) Semantics: [NOT CONTAINING(X _{x})] _{y}
Morphosyntax: [AN _{x} aff₆] _{y}

Informally, (3) and (4) refer to a morphological process that creates adjectives by adding affixes to noun bases. This explanation, which relies on traditional rules of grammar and lexical rules as exceptions, implies ruling out proper names as potential bases. Nonetheless, as shown in the following sections, a proper name can also be a variable X of *-like* and *-free* schemas.

3 Corpus Data and Results

In order to investigate if proper names can be combined with *-like* and *-free* and how frequently, COCA (Corpus of Contemporary American English) was chosen as a methodological tool, because it is the most widely used corpus of

³ This paper draws on two levels of the RM model; apart from semantics and morphosyntax, the RM model also includes phonology [9].

English with over one billion words of text⁴. Then, transcripts of spoken English with *-like* and *-free* were selected. The reason for this was twofold: firstly, most of these utterances are probably created spontaneously in interaction and thus show naturally occurring instances, and secondly, their meanings are likely to be readily interpreted in immediate context.

The search was conducted by looking into the results of wildcards **like* and **free* in spoken transcripts (SPOK⁵). The search provided data on total frequency (f) and unique types (t) of *-like* and *-free*. All the sentences containing *-like* and *-free* were then manually extracted and verified for the occurrence of proper names i.e. total frequency of *-like* and *-free* with proper names (f_{pn}) and their unique types (t_{pn}). Table 1 reports the complete data.

Table 1. The data on *-like* and *-free* in COCA’s spoken genre

	total (f)	unique (t)	total(f_{pn})	total(t_{pn})
<i>-like</i>	381,787	956	361	221
<i>-free</i>	21,262	295	29	16

The *-like* schema has generated more utterances with proper names as variables than the *-free* schema, which is in line with the total frequency of both affixes (f). The number of unique types (t_{pn}) with *-like* and proper names comprises only 23.11 per cent of all unique types (t) with *-like*, which indicates that the *-like* schema has not generated many utterances with proper names as variables in spoken English. The *-free* schema has generated even fewer utterances with proper names – only 5.42 per cent of all unique types (t_{pn}) with *-free*, which implies that the *-free* schema is marginally productive with proper names in spoken English. This might allow for the conclusion that proper names seem less natural as derivational items to speakers. Further psycholinguistic research is needed to determine whether proper names are generally unacceptable as derivational items to speakers. On the other hand, their infrequency might be a result of rare activation in context, not grammatical unacceptance.

4 Semantic Analysis and Discussion

On the basis of the corpus data, it has been shown that *-like* and *-free* are rather infrequently combined with proper names in spoken English. In this section, the semantic readings of 25 utterances are provided following the formal

⁴ <https://www.english-corpora.org/coca/>

⁵ Following the version released in March 2020, the spoken genre contains 44,803 texts with 127,392,392 words. The transcripts include unscripted conversation from more than 150 different TV and radio programs in the period between 1990 and 2019.

representations of *-like* and *-free* as schemas (3) and (4) respectively⁶. The sample is naturally divided in two parts, the first one consisting of examples with *-like* and proper names (5)-(17) and the second one of examples with *-free* and proper names (18)-(25). The examples are varied on the grounds of denotation e.g. proper names denoting individuals, groups of people, places, products, objects, substances etc. The semantic representation of each utterance is provided with the example.

The discussion centers on the meaning of *-like* and *-free* starting from a review of descriptive word-formation accounts. These accounts provide semantic interpretation of *-like* and *-free* with common nouns, which are compared to the semantic representations of *-like* and *-free* with proper names in the framework of RM⁷. The analysis relies on cognitive principles which aim to establish conceptual connections between our perception (or understanding of the world) and meaning.

4.1 Sample 1: *-like* with proper names

(5) Retail sales in this country took their biggest fall on record last month, a harbinger of a *Scrooge-like* Christmas season. (Fox News, 2008)

Semantics:

a. SCROODGE₇ b. [RESEMBLING(SCROODGE₇);PENNY-PINCHING]₈

(6) Lindsay has gone from being in jail to being out of jail to suddenly being sort of a *Mother Teresa-like* figure in nothing but a span of three days. (CBS The Early Show, 2010)

Semantics:

a. MOTHER TERESA₉ b. [RESEMBLING(MOTHER TERESA₉); SINLESS]₁₀

(7) Yes, there was a *Toyota-like* vehicle. And he described it as boxy, not rounded, as the newer models are. (NBC Dateline, 2009)

Semantics:

a. TOYOTA₁₁ b. [RESEMBLING(TOYOTA₁₁); SQUARE-SHAPED]₁₂

(8) Harry's at Hanover Square, with its wood-paneled walls and its *Cheers-like* bar, is a favorite hangout for brokers and traders. (ABC Nightline, 1994)

Semantics:

⁶ The analysis includes only the semantic representations. The morphosyntax of all utterances with *-like* and proper names is identical to the one in (3), and the morphosyntax of all utterances with *-free* and proper names is identical to the one in (4).

⁷ Semantic co-indexation starts at number 7.

a. CHEERS₁₃ b. [RESEMBLING(CHEERS₁₃); SOCIALIZING]₁₄

(9) Now, the FBI used, as someone said, the *Oprah-like* word, saying it had been victimized, the director did. In your judgment, what is the culpability of the FBI here? (ABC Brinkley, 1996)

Semantics:

a. OPRAH₁₅ b. [RESEMBLING(OPRAH₁₅); INTENSIFIED]₁₆

(10) Jim, in terms of – you know, there was a French official who had put this on a scale of 1 to 7, which is how nuclear emergencies, I guess, are judged. Put this at a 6, 7 being a *Chernobyl-like* incident. Does that sound accurate to you? (CNN Cooper, 2011)

Semantics:

a. CHERNOBYL₁₇
b. [RESEMBLING(CHERNOBYL₁₇); HIGHLY RADIOACTIVE]₁₈

(11) And there is a sort of zero tolerance for secession or for *Brexit-like* movements within Europe right now. (CNN Newsroom, 2017)

Semantics:

a. BREXIT₁₉ b. [RESEMBLING(BREXIT₁₉); BREAKAWAY]₂₀

(12) If there's an entrenched civil war? If it devolves into *Somalia-like* chaos? What then? (NBC Meet the Press, 2011)

Semantics:

a. SOMALIA₂₁ b. [RESEMBLING(SOMALIA₂₁); ENDURING]₂₂

(13) The White House has been working overtime to discredit the investigation, while Democrats are dreaming of a *Watergate-like* gotcha moment. (NBC Meet the Press, 2019)

Semantics:

a. WATERGATE₂₃ b. [RESEMBLING(WATERGATE₂₃); SCANDALOUS]₂₄

(14) You know, they're constantly looking for more *Earth-like* planets out there or moons of Jupiter that have enough water to support life and so on. (NPR Fresh Air, 2014)

Semantics:

a. EARTH₂₅ b. [RESEMBLING(EARTH₂₅); LIVEABLE]₂₆

(15) That’s a very large area to search. I doubt they did a *CSI-like* investigation. (CBS Sixty, 2007)

Semantics:

a. CSI₂₇ b. [RESEMBLING(CSI₂₇); DETAILED]₂₈

(16) If you’ve got another *Katrina-like* storm, I think clearly evacuation is the first step, but I do not anticipate any of the catastrophic failures of the projects that we saw last year. (CNN Situation, 2006)

Semantics:

a. KATRINA₂₉ b. [RESEMBLING(KATRINA₂₉); DEVASTATING]₃₀

(17) We were a great team together. And it was a doll with... Zahn: *Don King-like* hair. McEwen: Yeah, back in – it was fads. (CBS Morning, 1992)

Semantics:

a. DON KING₃₁ b. [RESEMBLING(DON KING₃₁); UPWARD]₃₂

All utterances in examples (5)-(17) which are generated by the *-like* schema share the same core meaning of “resembling X” i.e. being similar to the notions that proper names refer to. Unlike other simulative affixes which denote resemblance to some specific striking features, *-like* with common nouns denotes similarity to a whole e.g. *dwarfish* denotes similarity based on the quality of size, whereas *dwarflike* refers to a kind of person [4]. In the selected examples, proper names indicate one salient feature on which similarity is based; however, some utterances may be interpreted as denoting resemblance to a whole in a different context. For instance, an *Earth-like* planet and a *Toyota-like* vehicle may refer to objects which are similar to the planet Earth and Toyota car as a whole with respect to their shape, mass, size etc. Conversely, *Scrooge-like*, *Somalia-like* and *Don King-like* are more likely to indicate only one salient feature given that our encyclopedic knowledge about these notions stems from specific contexts i.e. Christmas, war, and hairstyle respectively. This means that our judgements about similarity vary in different situations; what counts as relevant for comparison might change from context to context e.g. *Oprah-like* may refer to a style or physical appearance or attitude of Oprah Winfrey, or all of this together.

The suffix *-like* is also discussed in terms of evaluation in word-formation. Evaluation is defined as a way of making a judgment about something or someone after much reflection, and the choice of an affix (e.g. *-ish*, *-like*, *-ly*, or *-y*) depends on the speaker’s perspective of a situation [8]. When speakers judge the character or virtue of something or someone, they may compare it to something or someone similar from their previous positive experience e.g. *childlike*, *godlike*, *rock-like*, *spring-like* [8]. With proper names, evaluations can be positive (6) and (8), but also negative (5) and (12), or neutral (7) and (17), which indicates that similarity is generally based on experience, be it positive, negative or neutral.

It is undoubtedly clear that the *-like* schema has the semantics “resembling X”, but the question remains what precisely makes two notions resemble one another. In cognitive approaches to similarity, two or more objects are similar because they share at least one feature. Their resemblance is conceptualized via the LINK schema which is one of the primary ways of connecting objects when there is no physical bond which would relate them directly [11]:



Fig. 1. The LINK schema

Examples (5)-(17) show that there is a specific link between the notion denoted by a proper name and another notion which is the main topic of the conversation. The link is based on particular resemblance which could be interpreted as an idiosyncratic part of the meaning as the one shown in (3). The idiosyncratic part of the meaning is based on our encyclopedic knowledge of the notion denoted by a proper name e.g. the withdrawal of the United Kingdom from the European Union (11) or the devastating effect of Hurricane Katrina (16). It also illustrates a metonymical transfer e.g. *Oprah-like* stands for the language Oprah Winfrey uses and *Don King-like* stands for Don King’s hairstyle. All examples (5)-(18) may be interpreted metonymically in terms of part-whole relations since one salient feature of the notion denoted by a proper name is the source of resemblance. Other genres and contexts may show that there could be more similar features or similarity as a whole. Nevertheless, it is necessary that there is *at least* one salient feature that would link the two notions.

4.2 Sample 2: *-free* with proper names

(18) But the strategy, it seems, is for Israel to expand its operations, to try and establish a buffer zone north of the Israeli border which it calls a *Hezbollah-free* zone. (CNN LiveToday, 2006)

Semantics:

a. HEZBOLLAH₃₃ b. [NOT CONTAINING(HEZBOLLAH₃₃)]₃₄

(19) The heavy hitters of Iraq’s various opposition groups spoke in turn to an audience of more than a thousand people, each outlining his vision for a *Saddam-free* Iraq. (NPR Sunday, 2002)

Semantics:

a. SADDAM₃₅ b. [NOT CONTAINING(SADDAM₃₅)]₃₆

(20) Even in *BSE-free* Sweden, meatballs, the national dish, are off school menus. (NPR ATCW, 2000)

Semantics:

a. BSE₃₇ b. [NOT CONTAINING(BSE₃₇)]₃₈

(21) The Obama administration continues to defend the law, though its global AIDS coordinator, Deborah Birx, told the “NewsHour” that: “Comprehensive HIV prevention, treatment and care services for sex workers remain top priorities for the U.S., critical to achieving an *AIDS-free* generation.” (PBS NewsHour, 2014)

Semantics:

a. AIDS₃₉ b. [NOT CONTAINING(AIDS₃₉)]₄₀

(22) When our bosses tell us to cover it, we cover it. And they seem to- they seem to think that that’s a pretty good idea a lot of the time. For a long time- I have not found this as interesting as other people. For a long time, I was so *O.J.-free* that I was afraid that I was going to be picked for the jury. (CNN King, 1995)

Semantics:

a. O.J.₄₁ b. [NOT CONTAINING(O.J.₄₁); NOT INFORMED ABOUT]₄₂

(23) Did anything change in the way the media has covered this story? Jane Hall, let’s go to you first. Have you noticed an evolution there? JANE-HALL-AMERICA: Well, I haven’t noticed exactly an evolution. I’ve noticed more and more intimate details. I’ve been trying to live in an Amber *Frey-free* zone in the past (UNINTELLIGIBLE), and had to look at the coverage sort of. (Fox Saturday; 2004)

Semantics:

a. AMBER FREY₄₃ b. [NOT CONTAINING(AMBER FREY₄₃); NOT INFORMED ABOUT]₄₄

(24) This is a *Lewinsky-free* zone this week. We’re not talking about impeachment, we’re talking about education. (NPR TalkNation, 1998)

Semantics:

- a. LEWINSKY₄₅
 b. [NOT CONTAINING(LEWINSKY₄₅); NOT COMMENTED]₄₆

(25) I have been keeping my commentary *Tebow-free*. And I'm going to maintain that. (ABC ThisWeek, 2012)

- a. TEBOW₄₇ b. [NOT CONTAINING(TEBOW₄₇); NOT COMMENTED]₄₈

Examples (18)-(25) show that the *-free* schema has generated utterances with a privative meaning “not containing X” when proper names are used as variables X. In the derivational literature, privation is defined as the negation of X (or “no X”), and it indicates a sense of loss or absence [4]. Górska [6] shows that the privative suffix *-free* has the central sense “without”, and it also conceptualizes intentional attention i.e. one chooses to be without something e.g. *smoke-free*. Likewise, Hamawand [8] points out that *-free* is added to nouns which are “categorically unwanted” or desirable to be without e.g. *pain-free*. Although this could apply to some examples from the sample such as (19), (21), (22), (23) and (25), it is more likely that intentional attention and undesirability follow from our perception and attitude (to pain, smoke, AIDS etc.) based on our experience.

In cognitive approaches to negation, negative meanings are based on the inside-outside contrast in the domain of containment [2]; metaphorically, categories are containers with a definite bounded space, and negation implies that an item X is located outside the bounded space [11]:



Fig. 2. The negation of the CONTAINMENT schema

Following this, the negative reading of *-free* with common nouns (e.g. *sugar-free*) comes from the absence of an entity in the bounded space [12]. When proper names are used as variables, the *-free* schema also conceptualizes the absence of an entity in the bounded space; for example, the absence of a person from a place (20). In the selected examples, the notions to which proper names refer can be interpreted as being located outside “the containers” i.e. places (18)-(19), and metonymically (20), groups of people (21), individuals (22)-(23), and news

(24)-(25). Thus, the core meaning of utterances with *-free* and proper names in (18)-(25) is the negation of the CONTAINMENT schema.

However, the occurrence of two idiosyncratic meanings “not informed about” in (22)-(23), “not commented” in (24)-(25) suggests that the *-free* schema produces specialized negative readings as well. In these examples, the referent is not an actual person, but a piece of news or information about the person. Our encyclopedic knowledge allows us to interpret proper names metonymically and we understand that a piece of news or information is missing e.g. a reporter is not familiar with the murder trial of O.J. Simpson (22) or a reporter restrains from making comments about Tim Tebow (25). Thus, the idiosyncratic part of the meaning in (22)-(25) is understood by means of metonymy.

5 Conclusion

Despite being productive, *-like* and *-free* are not frequently combined with proper names in spoken English. This might be due to the fact that proper names are generally unacceptable as derivational items; further psycholinguistic research could provide additional information on this. However, it might also be that proper names are simply rarely activated in context, even though they can be variables of declarative schemas in the same manner as common nouns.

Regarding semantic readings of 25 selected utterances with proper names, it is demonstrated that *-like* and *-free* keep their core meanings i.e. similitive “resembling X” for *-like* and privative “not containing X” for *-free*. Conceptual schemas play an important role in closer interpretation. It is shown that the LINK schema for the utterances with *-like* designates at least one salient feature on which resemblance is established, and the negation of the CONTAINMENT schema for the utterances with *-free* refers to a certain absence. In addition, the idiosyncratic part of the meaning occurs when a metonymical transfer takes place. These findings could be compared with the results of research on other affixes with proper names with the aim of showing which mechanisms operate when proper names are used as derivational items.

References

1. Adams, V.: Complex words in English. Pearson Education/Longman, Harlow (2001)
2. Arimitsu, N.: Antonyms and synonyms: Cognitive aspects of negation in positive sentences. In: Bonnefille, S., Salbayre, S.. La Négation : Formes, figures, conceptualisation, pp. 427-443. Presses universitaires François-Rabelais, Tours (2006), <http://books.openedition.org/pufr/4860>. Last accessed 26 June 2023
3. Arnaud, P.J.L.: Metaphor, metonymy and the nounness of proper names. Lexis [Online] 20 — 2022, Online since 29 December 2022 <https://journals.openedition.org/lexis/6617>. Last accessed 27 June 2023
4. Bauer, L., Lieber, R., Plag, I.: The Oxford reference guide to English morphology. Oxford University Press, Oxford (2013)

5. Dalton-Puffer, C., Plag, I.: Categorywise, some compound type morphemes seem to be rather suffix-like: On the status of -ful, -type and -wise in present day English. *Folia Linguistica* 34 (3-4), pp. 225-245 (2000)
6. Górska, E.: Possession frame in word-derivation: A case of English privative adjectives. In: Kardela, H. and G. Persson (eds.) *New trends in semantics and lexicography: Proceedings of the international conference at Kazimierz*, pp 35-51. *Acta Universitatis Umensis*. Umeå (1995)
7. Górska, E.: Recent derivatives with the suffix -less: A change in progress within the category of English privative adjectives? *Studia Anglica Posnaniensia* 36, pp. 189-202 (2001)
8. Hamawand, Z.: *Suffixal rivalry in adjective formation: A cognitive-corpus analysis*. Equinox Publishing Ltd, London (2007)
9. Jackendoff R., Audring J.: Relational morphology: A cousin of construction grammar. *Front Psychol.* 2020; 11:2241. Published 2020 Sep 23, <https://www.frontiersin.org/articles/10.3389/fpsyg.2020.02241/full>. Last accessed 28 June 2023
10. Jackendoff, R., Audring, J.: *The texture of the lexicon: Relational morphology and the parallel architecture*. Oxford University Press, Oxford (2020)
11. Johnson, M.: *The body in the mind: The bodily bases of meaning, imagination and reasoning*. University of Chicago Press, Chicago (1987)
12. Kikuchi, Y.: A review on the suffix -free related to negation and spatial cognition. *Osaka University Press in English Linguistics* 18, pp. 27-37 (2017)
13. Lehmann, C., Moravcsik, E.: Noun. In: Booij, G., Lehmann, C., Mugdan, J. (eds.) *Morphology: An international handbook of inflection and word-formation*, pp. 732-756. Mouton de Gruyter, Berlin/ New York (2000)
14. Namiki, T.: The categorical status of like from a morphological viewpoint. *English Linguistics* 5, pp. 1-18 (1988)