

DERIVED NOUNS AND INFLECTIONAL VARIABILITY: A CASE FOR DISTINCT NOMINALIZERS*

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This paper examines two issues related to the inflection of derived nouns: proper names do not necessarily regularize in endocentric contexts (*Wonder Women*), and irregular common nouns may regularize in exocentric contexts (*computer mouses*). These phenomena indicate that exocentricity is the singular cause of regularization, suggesting a uniform analysis of nominal inflection. Within the framework of Distributed Morphology, I explore the possibility of distinct nominalizing heads for endocentric and exocentric nouns and consider the implications of such an approach.

1. Introduction

Based on the behaviour of proper names derived from irregular common nouns, it has been observed that proper names regularize in their inflection. The following data from Kim et al. (1994: 184) illustrate this phenomenon.¹

- (1) a. We're having Julia Child and her husband over for dinner. You know, the {Childs/*Children} are really great cooks.
- b. I keep telling my father to buy a Mercedes, but he insists that with that kind of money, he could buy several Renault {Elfs/*Elves}.
- c. I'm sick of all the Mickey {Mouses/*Mice} that have been running this country for the past 12 years.
- d. The Toronto Maple {Leafs/*Leaves} are sure to be one of the best hockey teams in the NHL this year again.
- e. I like all versions of *Pretty Woman*, but Roy Orbison's origin version is clearly the best of all the *Pretty* {Womans/*Women}.
- f. Many blues artists emulate Muddy Waters, but there aren't that many Howlin' {Wolfs/*Wolves} on the blues scene today.

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¹Many of these examples also appear in Marcus et al. (1995) and Pinker (1998). I have made minor formatting adjustments for clarity.

- g. Movie sequels are really getting out of hand; there are two {Batmans/*Batmen}, and who knows how many {Supermans/*Supermen} there are.

Kim et al. (1994), Marcus et al. (1995), and Pinker (1998) argue that proper names are exocentric, or headless; in the case of derived proper names, they suggest that exocentricity is what blocks access to idiosyncratic information in the lexical entries of the corresponding common nouns. For this reason, the irregular plural form *mice* is unavailable in the case of *Mickey Mice* in (1c), hence the ungrammaticality of **Mickey Mice*. To sidestep the issue that derived proper names sometimes have lexical heads (e.g., the animated character *Mickey Mouse* is a type of *mouse*), these authors propose that all proper names are exocentric by virtue of belonging to a lexical category distinct from N, which they label as Name. I summarize their proposed generalization in (2).

- (2) Exocentricity results in regularization.

There are exceptions to this generalization, however. For instance, the team name *Minnesota Timberwolves*, which maintains the irregular plural form *wolves* despite being a proper name, is often contrasted with *Toronto Maple Leafs* in (1d). Moreover, it seems that context may play a role in whether speakers accept the irregular plural form of a proper name. The examples in (3) are derived from the same common nouns as those in (1), yet the speakers I have consulted are more tolerant of irregular plural forms in these contexts, even preferring them in some cases.

- (3) a. By mid-December, the toy store had completely sold out of {Elves/Elfs} on the Shelf.
- b. The walls of the child's bedroom were covered in Mickey {Mice/Mouses}: drawings, stickers, posters, and even the wallpaper itself.
- c. When Lynda Carter and Gal Gadot met at the premiere, it was the first time two Wonder {Women/Womans} had ever been in the same location before.
- d. The Three Little Pigs wondered if there could be other Big Bad {Wolves/Wolfs} in the world.
- e. When Bruce Wayne decided to clone himself, Gotham City suddenly had two {Batmen/Batmans} at its disposal.

As a first approach to the problem, it seems that the more flexible judgments in (3) are linked to usages in which a proper name is a type of the common noun in question: *Mickey Mouses* in (1c) refers to people, but *Mickey Mice/Mouses* in (3b) refers to instances of an animated *mouse*. The same is true of the other examples. Purposefully or not, Kim et al. (1994) state that proper names are exocentric by nature but do not support this claim with any cases where a derived proper name could be construed as an endocentric compound and yet still regularizes in its inflectional behaviour. While the data in (3) do not challenge the

generalization in (2), they suggest that a revised account of inflection with derived proper names is warranted.

Two research questions stem from the tension between the ungrammaticality of the irregular plural forms in (1) and the possibility of these same forms in (3): what are the possible structures of derived proper names (and derived nouns in general), and what motivates these structures? In section 2, I use the examples of *Maple Leafs* and *Timberwolves* to introduce two structures based on distinct nominalizers. In section 3, I look more closely at the differences between (1) and (3) to refine the characterization of these nominalizers. Finally, in section 4, I explore how this proposal extends to inflectional variability in the case of common nouns.

2. The structure of derived proper names

To capture the structure of derived proper names, one must consider the traditional distinction between inflection and derivation (even if it has no formal status in DM). Many apparent exceptions, including *Minnesota Timberwolves*, can be explained by inflection preceding derivation (section 2.1). Nonetheless, it is still necessary to account for derived proper names that are identical to irregular common nouns, such as *Timberwolves* and *timberwolves*, by some formal mechanism (section 2.2). One possibility is the recategorization of existing nominal structures, for which there is independent evidence (section 2.3).

2.1 Ordering inflection and derivation

Many derived proper names most commonly appear as plurals, yet they do not have the same internal structure. When inflection precedes derivation, the plural form of an irregular common noun may be converted directly into a proper name, as in (4).

(4) timberwolf → timberwolves → Timberwolves

Unlike the proper names in (3), inflectional variability is not possible between *Timberwolves* and **Timberwolves* for the simple reason that **Timberwolf* does not exist as an intermediate step.² In principle, any proper name could be derived from the plural form of a common noun, but applying the template for *Timberwolves* to other candidates in this paper reveals that this is not the correct analysis.

(5) a. maple leaf → maple leaves → *Maple Leaves

b. *mickey mouse → *mickey mice → Mickey Mice

The *Toronto Maple Leafs* are not a collective of common *maple leaves* but rather one of Canada's national symbol, the *Maple Leaf*, which is itself a proper name. As for *Mickey Mice*, it differs from *timberwolf* and *maple leaf* in that **mickey mouse* does not exist as a common noun. The same is true of the other derived proper names in (3).

²As opposed to *USS Seawolf*, a type of submarine, which has the plural form *Seawolves*.

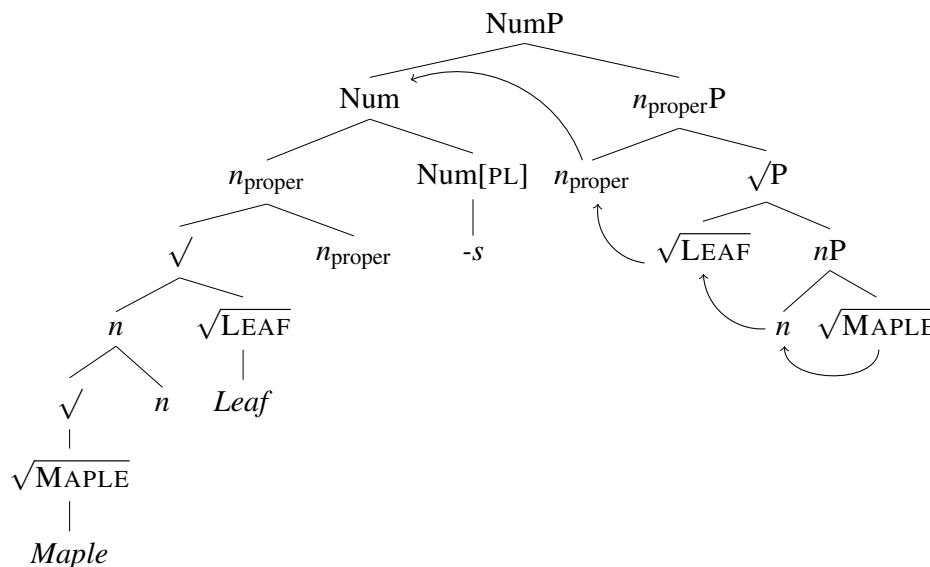
In summary, there are at least three types of inflected proper names. The easiest ones to account for are those where inflection precedes derivation, as in *Timberwolves*. For those where inflection follows derivation, some allow for variability, as in (3), while others do not, as in (1). Remarkably, the same proper name can belong to both subclasses, exhibiting variable inflection in some contexts (*the Mickey Mice/Mouses on the shelf*) but not in others (*the Mickey Mouses/*Mice I work with*). In section 3, I offer a solution that builds on the traditional distinction between endocentricity and exocentricity. First, however, I present some possible structures for these examples.

2.2 Flavours of *n*

As discussed in section 2.1, there is a relationship between the common nouns *maple leaf* and *timberwolf* and the proper names *Maple Leafs* and *Timberwolves*, respectively. Within a framework such as DM, it follows that *maple leaf* and *Maple Leaf* are built from the same roots, which require categorizing heads (Halle and Marantz 1993, Harley and Noyer 1999, Embick and Marantz 2008, Harley 2014). The contrast between (4) and (5) indicates that a functional head for number must merge after conversion to a proper name in the case of *Maple Leafs* but before conversion to a proper name in the case of *Timberwolves*. However, the mechanism for this operation is not immediately apparent.

Consider the structure of *Maple Leafs* in (6), which is based on Harley's (2009) treatment of primary, or root, compounds.³

(6) Structure of *Maple Leafs*



³Following Harley and Ritter (2002), I use privative rather than binary features, which correspond to marked values, such as [PLURAL] in English and [FEMININE] in Spanish.

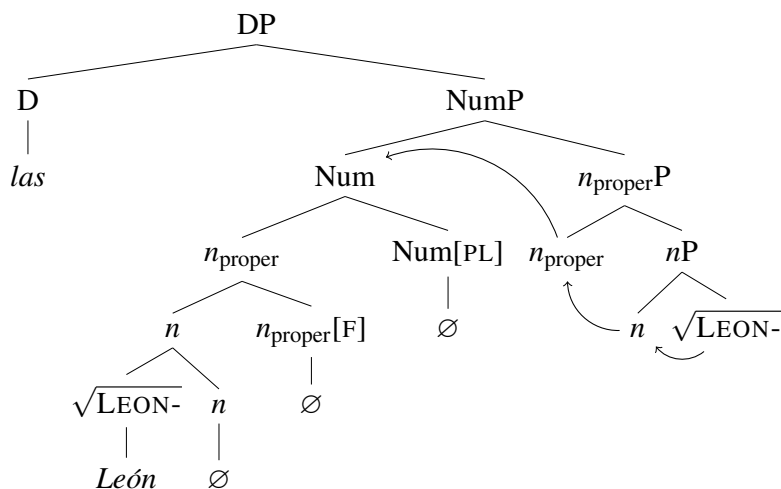
The crucial difference between *Maple Leafs* in (6) and *Timberwolves* in (8) is that \sqrt{P} in *Timberwolves* is first nominalized by the common noun flavour of n , which does not condition the spell-out of Num[PL], resulting in the irregular plural form *timberwolves* as an intermediate step. At this point, proper n recategorizes the entire structure as a proper name. In contrast, *Maple Leafs* in (6) is not a common noun at any stage of the derivation (but does have the same roots as *maple leaf*): proper n directly categorizes \sqrt{P} , resulting in the spell-out of Num[PL] as the underspecified allomorph *-s*.

2.3 Layers of n

Further evidence for the recategorization of existing nominal structures comes from derived surnames in many Romance languages. For example, the source of the Spanish surname *León* is the common noun *león* ‘lion.M’, yet to refer to the *León* sisters, one must obligatorily use the feminine plural form of the definite article: *las León*. Importantly, common nouns like *león* reflect the biological gender of the referent in that they have morphologically distinct feminine forms (*leona* ‘lion.F’). The final piece of the puzzle is that n is the locus of gender in Spanish, and class markers such as *-o* and *-a* are the spell-out of n (Harris 1991, Ritter 1993, Saab 2010). These constraints necessitate that proper n recategorize existing nominal structures; otherwise, there would be no way to rule out **las Leona*.

The simplest possible structure would be for proper n to categorize $\sqrt{LEON-}$. However, with feminine referents, proper n would be realized as *-a*, generating **Leona*, yet the surname *León* is invariable (unlike its common noun counterpart, *león/leona*). As a result, n must first categorize $\sqrt{LEON-}$ and thus provide a null class marker, as in (9).⁵

(9) Structure of *las León*



⁵Initial categorization by proper n could potentially be argued for with nouns that do not allow for distinct class markers. For instance, the Spanish surname *Luna* is derived from the common noun *luna* ‘moon.F’, which does not have a masculine counterpart (**luno*). Thus, one could claim that the class marker for the root $\sqrt{LUN-}$ is always realized as *-a* even if n lacks [F]. In this way, it would be possible to generate *los Luna* ‘the Lunas’ with proper n as the sole categorizing head.

In Spanish, it seems that the first instance of n that assigns a class marker blocks higher nominalizers from doing the same, though additional nominalizers may still assign different gender features to the structure. In (9), since n contributes a null class marker to $\sqrt{\text{LEON-}}$, proper $n[\text{F}]$ cannot contribute its own class marker, but it can still convert the masculine common noun into a feminine proper name (with no overt change). The same is true of a productive class of V-N compounds in Spanish, which are uniformly masculine regardless of the class marker of the nominal element (Val Álvaro 1999, Fábregas and Scalise 2012, Fábregas 2016). In the compound *abrelatas* ‘can opener.M’, the nominalizer that categorizes the root $\sqrt{\text{LAT-}}$ has the feature $[\text{F}]$ and is realized as *-a*, hence *lata* ‘can.F’. Since the compound also contains the verbal element *abre* ‘open’, it is necessarily the case that a second nominalizer merges in a higher position, which assigns masculine gender to the entire structure but receives a null spell-out since *-a* already appears as a class marker.

In short, the structures in (6), (8), and (9) illustrate the need for multiple nominalizing heads, even in relatively simple cases such as (6), where $\sqrt{\text{MAPLE}}$ must be categorized before it can merge with $\sqrt{\text{LEAF}}$. Moreover, the order in which these nominalizers merge determines the spell-out of higher functional projections, as in *Maple Leafs* (where NumP merges above $n_{\text{proper}}\text{P}$) versus *Timberwolves* (where $n_{\text{proper}}\text{P}$ merges above NumP). In other words, the relative ordering of inflection and derivation is reflected in the structure. A closer analysis of the data in (3), however, reveals that refinements to the system are needed. In section 3, I motivate these changes based on previous research regarding the semantics of proper names.

3. Refining the system

The core question of this section is as follows: why is both regular and irregular inflection possible with the derived proper names in (3) but not with their counterparts in (1)? As a first step in addressing this issue, it is helpful to consider Thomsen’s (1997) proposal as summarized by Ghomeshi and Massam (2009: 74).

- (10) a. $N_{\text{name}}: \{x: \text{is-named}(x, N_{\text{proper}})\}$
 b. $N_{\text{common}}: \{x: \text{properties-of-}N_{\text{common}}(x)\}$

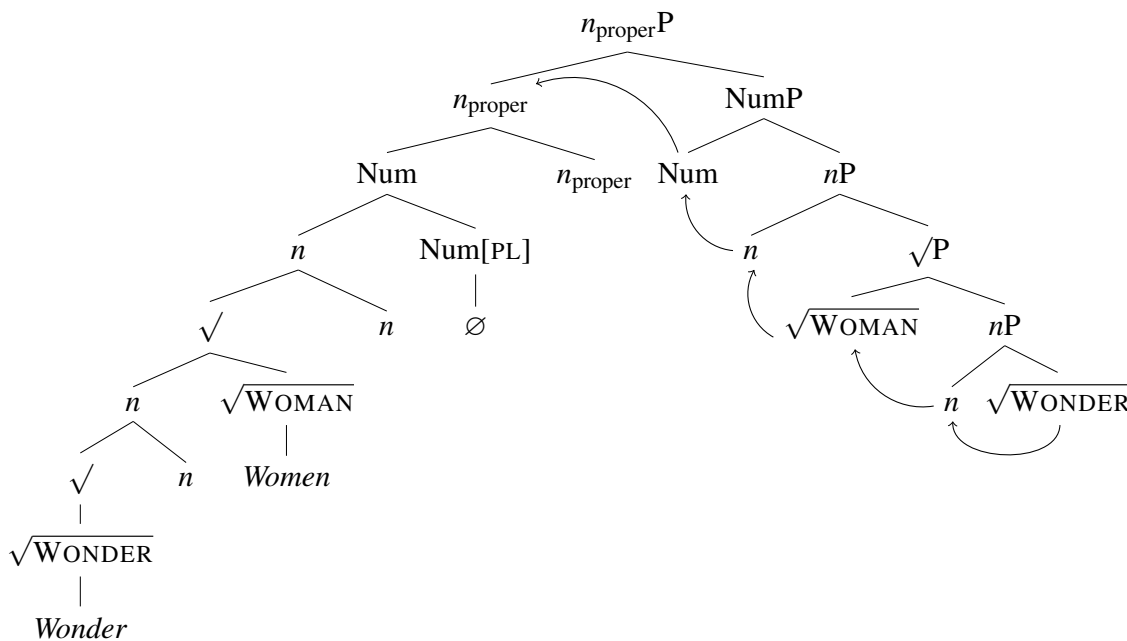
In other words, the difference between proper names and common nouns is not that one noun type denotes individuals while the other denotes sets, but rather that proper names and common nouns identify different kinds of sets. As indicated in (10), proper names are sets of individuals with the same name, while common nouns are sets of individuals with the same properties. The majority of the data in (1) are unambiguous in that they can only be described by (10a): two people who share a name do not necessarily have the same properties. The same is true of two covers of the same song or two movie sequels featuring the same character. For these reasons, (1b) stands out: two *Renault Elfs* share both a name and a set of properties. Granted, there can be minor differences from one vehicle model to another in terms of colour and features, but the general design must be the same for both to be considered *Elfs*, an argument that extends to different covers of the same song.

The notion of properties is interesting in the context of derived proper names as it begs the question: properties of what? Two *Renault Elfs* may share both a name and a set of properties, but these properties are not those of the common noun *elf*. In contrast, *Elves/Elfs on the Shelf* in (3a) do share a name and a set of properties with *elf*, and the same is true of every example in (3). For instance, *Mickey Mice/Mouses* in (3b) refers to depictions of the animated character, which share properties with *mouse*, while *Mickey Mouses* in (1c) is used as an epithet for incompetent people. *Wonder Women/Womans* in (3c) refers to women who have portrayed the superhero, while *Pretty Womans* in (1e) are covers of a song. *Big Bad Wolves/Wolfs* in (3d) refers to a fictional *wolf*, while *Holwin' Wolfs* in (1f) is a blues singer. Finally, *Batmen/Batmans* in (3e) refers to the character himself, who shares properties with *man*, while *Batmans* in (1g) are movie sequels.

It seems that irregular morphology is still available, at least for some speakers, in cases where the derived proper name shares properties with its corresponding common noun; consequently, Kim et al. (1994), Marcus et al. (1995), and Pinker (1998) are misguided in their characterization of all proper names as headless. In fact, the presence of a lexical head, which is the case for all of the data in (3), appears to determine whether irregular morphology is possible. The generalization in (2) is still valid, but more rigour is required when determining whether proper names are headless.

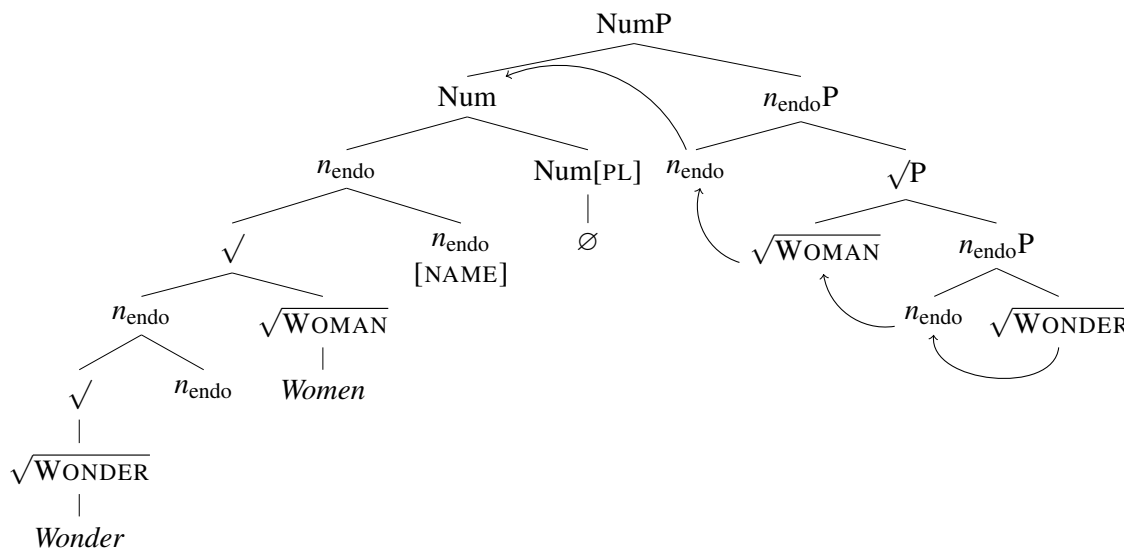
Despite the simplicity of the previous explanation, the irregular plural forms in (3) are not compatible with any of the structures in section 2. For example, the best candidate for *Wonder Women* would be (8), the structure of *Timberwolves*, but replacing the roots $\sqrt{\text{TIMBER}}$ and $\sqrt{\text{WOLF}}$ with $\sqrt{\text{WONDER}}$ and $\sqrt{\text{WOMAN}}$ results in erroneous predictions.

(11) Incorrect structure of *Wonder Women* (based on *Timberwolves*)



Longobardi (2005), Matushansky (2006), and Ghomeshi and Massam (2009), which differentiate proper names and common nouns at the N-level. Otherwise, the structure in (13) would make no distinction between *Wonder Woman*, a proper name that exists, and *wonder woman*, a common noun that does not. As a result, there are four possible scenarios: two flavours of *n* (endocentric and exocentric), each with an optional [NAME] feature.⁶ This proposal entails a number of predictions that I will explore in the remainder of this paper.

(13) Possible structure of *Wonder Women*



The structure in (13) essentially means that, for speakers who produce *Wonder Women* in a context such as (3c), *Wonder Woman* is a type of *woman*; conversely, for those who produce *Wonder Womens* in this same context, *Wonder Woman* is not a type of *woman*, as in (14) below. While no speaker would entertain the possibility that *Pretty Woman* in (1e) is a type of *woman*, the fact that the line is blurry with *Wonder Woman* may explain why inflectional variability is possible in (3c). This variability can be linked to the use of either endocentric or exocentric *n* as a categorizing head, where exocentric *n* conditions the spell-out of higher functional projections: in (14), Num[PL] is realized as the underspecified allomorph *-s* in this environment.

An alternative means of capturing the notion of a lexical head is to consider that roots encode a presupposition that may not be “recognized” by the structure. For instance, if $\sqrt{\text{WOMAN}}$ appears in a structure that does not recognize its presupposition (i.e., the root is categorized by exocentric *n*), higher functional projections are then spelled-out as underspecified allomorphs. In other words, irregular morphology is only preserved when this presupposition is met, which seems to be an appropriate way to frame the issue: what requires explanation is not that proper names regularize but rather that they fail to uniformly regularize. The same question applies to common nouns, which are the focus of section 4.

⁶Like the privative features in Harley and Ritter’s (2002) system, [NAME] corresponds to a marked value.

accounts for the irregular plural form *mice*, the fact that *mouses* is a possible plural form underscores the need to amend the system, either by means of distinct categorizing heads or distinct roots (one for the rodent and another for the device). Given the lack of evidence for the latter option, not to mention the independent motivation for different nominalizers, it is worthwhile pursuing the former.

For a related example, consider how speakers deal with *Canada Goose* (the outerwear), a brand derived from the common noun *Canada goose*. Unlike *computer mouse*, which one could argue bears some resemblance to a rodent, a coat cannot be considered a type of *goose* in any circumstance. Given the context in (16a), speakers reject the irregular plural form in (16b).

- (16) a. Recently, you have seen your friend wearing a new Canada Goose coat every day of the week.
- b. You ask: “How many Canada {Gooses/*Geese} do you own?”

While it is true that *Canada Goose* is a proper name, I have previously shown that proper versus common is not a relevant distinction for inflection. Furthermore, if *Canada Goose* were to somehow become popular enough that people began referring to this style of coat as simply a *goose* (i.e., as a common noun no longer tied to a single manufacturer), it is unlikely that they would use the plural form *geese* (as opposed to *gooses*). Finally, to address the possibility of different roots for *goose* the bird and *goose* the coat, it would be difficult to defend this claim considering that the latter is filled with goose down, indicating that there is a direct relationship between the two terms.

To summarize, the inflectional behaviour of common nouns that do not appear in compounds serves as further evidence for distinct nominalizers (endocentric and exocentric *n*). Arguments for regularization have traditionally been limited to proper names, yet common nouns may also regularize in certain contexts. In short, irregular morphology seems to only be available with endocentric usages of a noun.

5. Conclusion

The fact that derived proper names have variable inflectional behaviour complicates the possibility of a single categorizing head, proper *n*. Instead, it appears that exocentricity is a better predictor of whether proper names and common nouns will regularize. From a DM perspective, the difference between *Batman* as a film title (1g), which obligatorily regularizes, and *Batman* as a superhero (3e), which does not, can be captured by distinct nominalizers: endocentric and exocentric *n*.

As for common nouns, the data in (15) and examples such as *computer mouses* confirm that what inhibits regular morphology is endocentricity, not a noun’s status as common. In conclusion, both proper names and common nouns regularize due to an exocentric *n* layer, a promising first step in a uniform account of the inflectional variability of nouns.

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