Abstract: Premodification patterns play a central role in the categorization of of-binominals in general, and particularly in the grammaticalization of the evaluative binominal noun phrase (a beast of a man) into an evaluative modifier (a beast of a Hollywood year), where the first noun functions as an extreme modifier. This paper compares a linear, construction-based account of the premodification patterns of the evaluative binominal noun phrase, evaluative modifier, and other historically related of-binominals to a hierarchical account in Functional Discourse Grammar in order to investigate in what way each theory captures and accounts for these patterns. The paper comprises two parts: First, based on a zone-based premodification model, an empirical study of the synchronic premodification distributional patterns of these of-binominals is presented. Second, the paper discusses a Functional Discourse Grammar explanation of the findings. In the conclusion, the theoretical implications of the explanations of these patterns in the two approaches are discussed.

Keywords: premodification, of-binominals, functional discourse grammar, zone-based approach

1 Introduction

Evaluative binominal noun phrases1 (henceforth EBNP) such as a jewel of a city and a fool of a doctor have been the focus of linguistic research in English as well as Dutch (e.g. Bennis et al. 1998), French (e.g. Doetjes and Rooryck 2003),

1 This term was taken from Trousdale (2012). However, the same construction is referred to as a binominal noun phrase in Aarts (1998), Keizer (2007a), and Kim and Sells (2015), as an expressive binominal noun phrase in Foolen (2004), qualitative binominal noun phrase in Den Dikken (2006), and as an adjective noun in McCawley (1988).
Italian (e.g. Masini 2016), Spanish (e.g. Villalba and Bartra-Kaufmann 2010), and Germanic languages (e.g. Foolen 2004, although he includes Romance languages as well). Partly the interest garnered by this construction in English is its unusual semantics, as the first noun of the of-binominal ascribes a property to the second, but also the interest is in its non-canonical syntax: its irregular premodification patterns (1a)–(1b), undetermined semantic and syntactic head, and the fixed indefinite article in front of the second noun (2) (for further discussion see Aarts 1998; Keizer 2007a; Kim and Sells 2015). In other work (Ten Wolde and Keizer 2016; Ten Wolde 2018), I have proposed the grammaticalization path below (Figure 1), with some of the key of-binominals in the EBNPs historical development, and argued for a distinction between the EBNP and a new of-binominal category, the evaluative modifiers (Examples [3a]–[3b]; see Section 3.4 for more details).

2 The term construction is often (and unavoidably) used in the pre-CxG sense as a group of syntactic elements or a syntagm or phrase.

3 This grammaticalization path is the most logical path based on evidence from the formal features exhibited by each construction in the synchronic data. However, the exact nature of this historical relationship would need to be substantiated by a diachronic study (see Ten Wolde 2018). As of yet, too little research has been conducted on many of the constructions to accurately date their initial development in English. What has been found is that the prototypical N + PP form existed in Old English (cf. Mitchell 1985: 522; Lundskær-Nielsen 1993: 114), and Aarts (1998: 120) has found examples of the EBNP as early as the thirteenth century. However, to my knowledge, no research has been undertaken to pinpoint the development of the head-qualifier, and the Q4 EMIs a newconstruction.

4 In this case, I am talking about speaker evaluativity (i.e. speaker response) in adjectives (e.g. VALUE adjectives in Dixon (1982: 30); affective adjectives in Adamson (2000: 44)).

5 COHA = the Corpus of Historical American English.

6 COCA = the Corpus of American English.
b. Finally, we have an utter beast of a graphics card, the borderline ludicrous AMD Radeon R9 295x2, which rocks two–count 'em, two–of the graphics processors found in the Radeon R9 290X.

(COCA)

The link between premodification and these constructions is two-fold. First, previous studies (e.g. Aarts 1998; Keizer 2007a; Kim and Sells 2015) have noted that the EBNP exhibits irregular premodification patterns in that modifiers clearly selected by the second noun can appear before the first noun (1a)–(1b). This study looks for a systematic explanation for this development. Second, I propose that the development of the evaluative modifier infers that the modifier is integrated into the already existing premodification patterns, and therefore, evidence either supporting or refuting this finding should be found in the distribution of the premodifiers found in the constructions.

Some of the more recent functional-cognitive/construction based models of the English noun phrase have adopted a linear, zone-based approach to premodification ordering (e.g. Quirk et al. 1985; Feist 2012; Ghesquière 2014; Breban and Davidse this issue), and this would appear to be in direct opposition to the hierarchical, modular model of language in Functional Discourse Grammar (FDG). Therefore,

7 Generative approaches are also hierarchical models (for discussions on premodification in generative theories e.g. Sproat and Shih 1988, 1991; Cinque 1994, 2010, 2014, this issue; Scott
this paper focuses on two questions: First, what are the features that characterize the premodifier patterns of these constructions? Second, to what extent can a linear as compared to a hierarchal theoretical approach to premodifiers explain these patterns?

2 Two approaches to premodification

2.1 Introduction to the zone-based approach

A range of zone-based premodification categories have been proposed for the English NP (e.g. Quirk et al. 1985; Dixon 1982; Feist 2012; Ghesquière 2009, Ghesquière 2014). For this study, I chose Ghesquière’s (2014) functional-cognitive model, because, first, its categorical distinctions (with a few exceptions) are similar to the modification categories in the second theory presented here, Functional Discourse Grammar, making the two models comparable. Second, a grammatical class based approach to premodification (e.g. Dixon 1982; Quirk et al. 1985) would not work because the second research question entails that the first noun of the evaluative modifier construction functions like an evaluative modifier. Finally, a functional-cognitive categorization offers a more flexible set of parameters for the categorization of premodifiers not focusing on minute semantic distinctions such as speed, size etc. (cf. Dixon 1982; Scott 2002; Cinque 1994, Cinque 2010), which do not play a critical role in distinguishing between of-binominal premodifier patterns (see Brems (2011: 191–201) for an analysis of the premodification of sort-of, kind-of, and type-of of-binominals).

Ghesquière’s (2014: 13) model is based on a Construction Grammar approach, and she defines constructions (as per Croft 2001; Fried 2010) as “functional structures in which grammar and lexis are integrated with each other, i.e. as distinct form-meaning pairings” (Ghesquière 2014: 14; see also 2002; Laenzlinger 2005). However, hierarchy in generative approaches is different from that in FDG. Generative grammar theories model along a syntactic hierarchy that does not include a pragmatic level and does not entail a separate semantic one.

A hierarchical approach in FDG means that the model has a top-down organization with four levels: a pragmatic/discourse, semantic, morphosyntactic and phonological level. Formulation begins at the pragmatic/discourse and semantic levels before the information is encoded in the morphosyntactic and phonological levels, i.e. the formulation of an utterance begins at the pragmatic level and flows down. Furthermore, each level is hierarchically organized into layers, each of which consists of a variable that is restricted by a head and modified by operators (cf. Section 2.2). Therefore, hierarchical in FDG has a different theoretical significance and entails other implications than hierarchical in generative grammar approaches.
Ghesquière 2014: 13–15). Essentially this assumes a function-based rather than a grammatical category-based/semantic category approach to premodification (see also Breban and Davidse this issue), i.e. there is no one-to-one correlation between a word’s grammatical category and a word’s premodifier function. Based on work from Halliday (1985), Bache (2000) and Langacker (1991), this model breaks up the prototypical NP into three primary zones: categorization, modification and determination.

Starting from the right (Figure 2), the categorization zone consists of the head, designating the noun phrase’s referent, and classifiers “which indicate a subtype of the type denoted by the head” (Ghesquière 2014: 25). The modification zone consists of two types of modifiers, descriptive and degree modifiers. The former attributes subjective and objective properties and qualities onto the head, and therefore, consists of two types of premodifiers with their respective zones: objective or subjective descriptive modification (for a more detailed discussion of this distinction from a functional-cognitive perspective see Breban (2010: Ch 2); for a discussion of the subjective-objective distinction see also Hetzron 1978; Seiler 1978; Quirk et al. 1985; Cinque 1994; Scott 1998; Adamson 2000; Trueswell 2009; Kotowski and Härtl (this issue); Scontras et al. 2017). The degree modifiers “measure the degree of gradable properties referred to by the descriptive modifiers (adjective-intensifiers) and/or the head of the NP (noun-intensifiers)” (Ghesquière 2014: 25; see also Adamson 2000). The left-outer zone is the determination one, and the linguistic elements in this zone ascribe identifying and quantifying information (Ghesquière 2014: 25). This study focuses on the modification and the categorization zones, and thus only they will be discussed in more detail below.

<table>
<thead>
<tr>
<th>Determination</th>
<th>Modification</th>
<th>Categorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>secondary</td>
<td>primary</td>
<td>secondary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>noun-intensifier adjective-intensifier subjective objective classifier head</td>
</tr>
<tr>
<td>bleached</td>
<td>non-bleached</td>
<td></td>
</tr>
</tbody>
</table>

Figure 2: Ghesquière’s (2014: 24) functional-cognitive NP model.

In the categorization zone, Ghesquière (2014: 26) explains, the head can be realized by a noun or a compound noun, and the main evidence for compounding is that the component parts of compounds cannot be separated by coordination and modification, e.g. ice-cream by *ice-Italian cream and *ice-and custard-creams.
Ghesquière (2014: 27) defines classifiers as premodifiers that “further specify the type or class of the thing denoted by the head” and are organized into “mutually exclusive and exhaustive sets”, e.g. electric trains/steam trains. Classifiers usually cannot be used in the predicative position and normally do not allow degree modification (Ghesquière 2014: 27).

The modification zone is partitioned into descriptive and degree modification. Descriptive modifiers are the prototypical premodifier and “attribute a certain quality or property to the instances referred to by the NP” (Ghesquière 2014: 29). They can occur in the attributive and predicative positions, tend to be gradable, and allow for degree modification (Ghesquière 2014: 29). Ghesquière, furthermore, makes the distinction between objective and subjective descriptive modifiers: where objective modifiers “indicate objectively recognizable, purely descriptive and potentially defining qualities”, subjective ones “express the speaker’s attitude towards the instance referred to by the NP” (Ghesquière 2014: 30; similar to the affective adjective in Adamson 2000, the Epitethet in Feist 2012, or the subjective comment Scott 2002). The two categories are not discrete but represent two ends on a continuum (Ghesquière 2014: 29).

As with the descriptive modifiers, Ghesquière (2014: 34–44) distinguishes between two different degree modifiers. The first, adjective intensifiers, “modify or indicate the extent of a quality or property denoted by a descriptive modifier they precede” (35), e.g. a very nice book or a really fast car. For this category, she then makes the distinction between more or less bleached adjective intensifiers; the more bleached are adverbs such as very or fairly, and the less bleached are those such as lovely in lovely long legs (Ghesquière 2014: 35–36; these are similar to Dixon’s 1982 VALUE adjectives). The second kind of degree modifiers, noun intensifiers (similar to emphasizers (Quirk et al. 1985) or reinforcers (Paradis 2000; Feist 2012)), “have scope over and modify the degree of all gradable qualities in the whole NP”, e.g. a complete idiot, utter darkness (Ghesquière 2014: 36–37).

These categorical distinctions were used in the empirical analysis to code the corpus data. However, before discussing the empirical part of this study, I will introduce the second theory used in this paper, Functional Discourse Grammar, and discuss how it would model Ghesquière’s categories.

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8 This is a controversial topic (see e.g. Payne and Huddleston (2002: 448–451); Ralli and Stavrou 1998; Olsen 2000; Bauer 2004; Giegerich 2004, Giegerich 2009); however, this distinction itself does not affect the general findings presented below except to reduce the number of premodified EMs. To include a more detailed discussion of this distinction would exceed the scope of this paper.
2.2 Introduction to Functional Discourse Grammar

2.2.1 General theory

Functional Discourse Grammar is a functional, typologically-based model of language characterized by a form-oriented “function-to-form”, top-down approach to grammar (Hengeveld and Mackenzie 2008). FDG is form-oriented in that it focuses on and accounts for linguistic facts and linguistic phenomena that are actually encoded in the grammar of a language.\(^9\) It is “function-to-form” in that an underlying premise is that function, either directly or indirectly, influences form, and it is top-down because each analysis begins with a speaker’s intention and ends with articulation (for more details see Hengeveld and Mackenzie 2008: 25–42). These final two premises are clearly reflected in the model’s architecture (see Figure 3), which begins with a speaker’s communicative intention on the prelinguistic level in the Conceptual Component. This mental representation feeds into the Grammatical Component and triggers the operation of formulation, which translates these conceptual representations into pragmatic representations at the Interpersonal Level (IL) and semantic representations at the Representational Level (RL). Formulation draws on a set of primitives: frames to structure representations at the pragmatic and semantic levels, and lexemes and operators to provide the lexical and grammatical information. The configurations from these two levels are then encoded on the Morphosyntactic Level (ML), using templates, grammatical morphemes, and operators. Information from all three levels feeds into the operation of phonological encoding, resulting in a structure at the Phonological Level (PL); the output of this level feeds via an operation of articulation into the Output Component (Hengeveld and Mackenzie 2008: 12–13). Information from the Contextual Component (i.e. context) feeds into both of the formulation levels and those of encoding.

In its underlying organization “FDG takes the functional approach to language to its logical extreme: pragmatics governs semantics, pragmatics and semantics govern morphosyntax, and pragmatics, semantics, and morphosyntax govern phonology” (Hengeveld and Mackenzie 2008: 13). How this works in

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\(^9\) This means that the speaker’s intention is only captured by the model when it is actually encoded in the language and/or in the utterance. For example, in a situation where a speaker wants an addressee to close the window, they can express their wish as a mitigated imperative: *Please close the window* or indirectly as a declarative: *There’s a draft in here.* The second would only be categorized as having a Declarative Illocution not Imperative since the speaker’s intention or the Imperative Illocution is not encoded in the utterance (Hengeveld and Mackenzie 2008: 47–48).
practice is demonstrated in the section below, which introduces a basic analysis of the noun phrase.

However, before discussing the basic analysis, let me provide a brief explanation for the choice of this model. As is also true for the zone-based approach above, there are a few different hierarchical models to choose from for this study. The FDG model was chosen because the more formal notation allows for an internally coherent explanation and modelling of the phenomena, i.e. drawing on tools already posited by the theory as being a part of the speaker’s repertoire instead of giving ad hoc descriptions. A further consideration was that Construction Grammar, Langacker’s Cognitive Grammar and Halliday’s Functional Grammar (the theoretical basis for Ghesquière’s model) and FDG

Figure 3: General layout of FDG (Hengeveld and Mackenzie 2008: 13)
are theories or language models within the functional-cognitive space (Butler and Gonzálvez-García 2014), which is not the case for generative based theories. This means that FDG and Ghesquière’s functional-cognitive model of the NP share some fundamental linguistic premises and are, therefore, amenable to comparison or to the possible amalgamation of the two models.

2.2.2 The noun phrase and premodification in Functional Discourse Grammar

Example (4) is an FDG representation (somewhat simplified) of the phrase a ferocious beast. In this theory, the Noun Phrase (NP) is actually a technical term that only appears at the Morphosyntactic Level (4c), where Np stands for a Nominal Phrase with a Nominal Word (Nw) as head. The Nominal Phrase prototypically relates to a Referential Subact (R) at the Interpersonal Level (IL; [4a]), an Individual (x) at the Representational Level (RL; [4b]), and a Phonological Phrase (PP) at the Phonological Level (PL; [4d]).

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\[
(4) \quad \text{a ferocious beast}
\]

- **IL**: (-id R₁: [(T₁) (T₂)] (R₁))
- **RL**: (1x₁: (f₁: beast (f₁)) (x₁): (f₂: ferocious (f₂)) (x₁))
- **ML**: (Np₁: [(Gw₁: a (Gw₁)) (Ap₁: (Aw₁: ferocious (Aw₁)) (Ap₁)) (Nw₁: beast (Nw₁))]) (Np₁))
- **PL**: (PP₁: [(PW₁: /ə/ (PW₁)) (PW₂: /ˈfɛrəʊʃəs/ (PW₂)) (PW₃: /ˈbiːst/ (PW₃))] (PP₁))

The Interpersonal Level is made up of linguistic units that represent those aspects of Speaker and Addressee interaction that are encoded in a language. At this level, the Communicated Content of the expression consists of two types of Subacts, Subacts of Reference and Subacts of Ascription. Referential Subacts (R) evoke entities and usually consist of at least one Subact of Ascription (T), evoking a property (cf. Hengeveld and Mackenzie 2008: 107–124). In Example (4), there is a Subact of Reference (R₁) whose head consists of two Acts of Ascription (T₁ and T₂), one evoking the property “beast” and the other the property “ferocious”. Operators at the layer of the Referential Subact usually mark referent identifiability, e.g. in (4a) -id indicates that the speaker does not think the addressee will be familiar with the entity evoked. Operators of the Ascriptive Subact might be grammaticalized forms of approximation such as -ish or sort-of in (5). Modification at this Level is strictly interpersonal, i.e. expressing the speaker’s attitude toward the referent; an example would be perfectly in (6), which signals the emphatic commitment of the speaker to the statement.
(Hengeveld and Mackenzie 2008: 111–113). Other modifiers, such as *ferocious* in (4), appear on the Representational Level.

(5)  
   a. *sort-of blue* 
   b. (approx T₁) 

   (Hengeveld and Mackenzie 2008: 112)

(6)  
   a. *a perfectly good time* 
   b. (-id R₁: (T₁ [ ] (T₁): perfectly (T₁)) (R₁)) 

At the next level of formulation, the Representational Level, the information from the Interpersonal Level is provided semantic content. Semantics here is used in the sense of Halliday’s (1985) “ideation” and is restricted to the meanings of the lexical and complex units, divorced from their communicative use (which is already captured on the Interpersonal Level) (Hengeveld and Mackenzie 2008: 128–129). The units at this level represent entities in a non-linguistic world, but only those that are linguistically relevant. The four basic semantic categories on this level, all of which can have a nominal head, are the Individual (x) such as *chair*, the Property (f) *color*, the State-of-affairs (e) *meeting*, and the Propositional Content (p) *idea* (Hengeveld and Mackenzie 2008: 131–132). In the case of (4), the Referential Subact (R₁) on the IL coincides with the Individual (x₁) on the RL. The Individual designated by (x₁) is ascribed the property “beast” (f₁) and is further modified by the Property “ferocious” (f₂); f₁ and f₂ correspond to T₁ and T₂. The operator 1 indicates that the Individual is a single entity.

On the Morphosyntactic Level, the information from the previous two levels is encoded using a set of language specific morpho-syntactic primitives (Hengeveld and Mackenzie 2008: 282–287). These primitives include templates that encode the ordering patterns at the clause, phrase and word layers. Example (4c) is based on the prototypical Noun phrase template, which includes a determiner slot, an adjective slot (heading an Adjectival phrase) and a noun slot (heading the Noun phrase). Operators at this level take the form of “placeholders”, triggering the use of bound morphemes expressing, for instance, number (“sg” in Example [4c]) at the Phonological Level.

All the input from the previous three levels feeds into the Phonological Level, and this level is, therefore, entirely dependent on information from these upper levels for its operations (Hengeveld and Mackenzie 2008: 422). To structure this content, it has three different sets of primitives: i) prosodic patterns for the information from each layer of analysis, ii) forms expressing grammatical information such as irregular verb forms (on the basis of grammatical information triggered by operators at a higher level), and iii) tertiary
operators (e.g. rising or falling intonation). A possible noun phrase Phonological Level analysis of Example (4) can be seen in Example (4d).

As already touched upon above, premodification in FDG is analyzed as both modifiers and/or operators at the Interpersonal and Representational Levels. Ghesquière’s classifiers and descriptive modifiers would appear on the Representation Level; there classifiers would modify the Property ((f); Example [7]), i.e. the Property “student” is restricted by the Property “medical”, and these two properties constitute the Individual (Hengeveld and Mackenzie 2008: 230). Descriptive modifiers would be a Property (f) that modifies an Individual (x), as in Example (4). As to the subjective/objective distinction made by Ghesquière (cf. Hetzron 1978; Seiler 1978; Adamson 2000; Trueswell 2009, and for a discussion of alternative ordering constraints Kotowski and Härtl (this issue); Panayidou (this issue)), FDG only stipulates that if there is more than one descriptive modifier, the more objective modifiers tend to be closer to the head and the subjective ones further away ([8]; Hengeveld and Mackenzie 2008: 241–242).

(7) a medical student
   RL: (1x₁: (f₁: student (f₁)): (f₂: medical (f₂)) (x₁))

(8) the rich old man
   RL: (1x₁: (f₁: man (f₁)) (x₁): (f₂: old (f₂)) (x₁): (f₃: rich (f₃)) (x₁))

Degree modifiers in FDG fulfill a variety of roles and can be more or less subjective, meaning that in the FDG framework degree modifiers can be rendered as operators or modifiers of the Ascriptive Subact or Referential Subact on the Interpersonal Level or as an operator of a Property on the Representational Level (Van de Velde 2007: 216; see García Velasco 2013 for an overview). For example, a degree modifier such as very functions as an operator on the Representational Level (García Velasco 2013: 87–89; Example [9]), and the more subjective -ly degree adverbs such as dreadfully appear on the Interpersonal Level (García Velasco 2013: 93–94; Example [10]). (9) and (10) would be what Ghesquière designates as bleached (9) and unbleached (10) adjective intensifiers.

(9) very tall
   RL: (intens f₁: tallₜ (f₁))
   ML: (Ap₁: (Gw₁: very (Gw)) (Aw₁: tall (Aw₁)) (Ap₁))
   (García Velasco 2013: 89)

(10) dreadfully sorry
    IL: (T₁: [ ] (T₁): dreadfully (T₁))
What Ghesquière might call subjective descriptive modifiers or noun intensifiers are in FDG modifiers of the Referential Subact (R) at the Interpersonal Level. In (11), *proper* expresses the speaker’s evaluation of the referent’s conformity to a prototypical “beast of prey”, and *poor* in (12) does not ascribe a property to an entity but expresses speaker sympathy for the referent (Hengeveld and Mackenzie 2008: 121).

(11) *a proper beast of prey*

(12) *Why do they have to be out there pestering a poor innocent dinosaur?*

In the section that follows, I will briefly discuss the constructions under discussion before continuing to the empirical analysis.

3 The EBNP family

A variety of *of*-binominal constructions seem to be historically linked with the EBNP: three of the most prominent ones are the evaluative modifier (EM), the N+PP, and the head-qualifier constructions (Ten Wolde and Keizer 2016). In Sections 3.1 to 3.4, each construction will be described in more detail, before turning to the empirical study.

3.1 N+PP modifiers

The N+PP are prototypical *of*-binominal in which the prepositional phrase functions as a modifier specifying possession (13), source/location (14) or time (15), or they simply ascribe an attribute onto the first noun (16).

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10 It is not so clear where premodifiers such as *poor* (as a speaker evaluation) or *proper* would be placed in Ghesquière’s model. They denote the speaker’s subjective evaluation of the referent, but are different from subjective descriptive modifiers such as *beautiful* (as Ghesquière (2014: 41–44) herself points out). Nonetheless, particularly *poor* used in this way, does not appear to be a noun intensifier (for further discussion see Section 7).

11 These constructions are prototypical in the sense of diachronically being the original *of*-binominals form (cf. Mitchell 1985: 522; Lundskær-Nielsen 1993: 114) and structurally because they function like other prepositional phrases.
(13) *the mouse of a new supercharged computer*  
(COCA)

(14) *Beast of The Southern Wild*  
(COCA)

(15) *the other moral disaster of 1973*  
(COCA)

(16) *a disaster of cosmic proportions*  
(COCA)

In these constructions, the element *of* may have the meaning “from” or “with” or “belonging to”. Semantic tests for obligatoriness in (17a)–(17c) (although [17c] is not ungrammatical but the meaning completely changes), selection restrictions in (18) and agreement in (19), determiner agreement in (20), and pronominalization in (21) (see Keizer 2007a: 9–21) show that the first noun is the head. Both nouns can take singular and plural form and do not have to agree in number (21). As shown in (22), the PP can be coordinated. Determiners appearing before both the first and second noun indicate identifiability and number of their respective referents.

(17) a. *When the dogcatchers caught the stray dog of a white citizen, they called the citizen up.*  
(COCA)

b. *When the dogcatchers caught the stray dog, they called the citizen up.*

c. *#When the dogcatchers caught a white citizen, they called the citizen up.*

(18) *The little beast of the Inside World* did not struggle with the death I sent it;  
(COCA)

(19) *If all this sounds like work, why not have the beasts of the night do it for you?*  
(COCA)

(20) *Researchers dubbed some of these exotic beasts of the stellar zoo ...*  
(COCA)
(21) You should know the vagabond homeless dogs of Lima inhabit a higher plane of ruthlessness. They own the alleys;
(COCA)

(22) a. Quiet twilight, great birds of the air stock still in midheaven.
(COCA)
b. They were great birds of the air and of the sea.

As the prototypical N-of-N, it is assumed to allow for canonical premodification, i.e. has all zones, in front of both nouns: \([_{NP1} \ [Det_1] \ [Mod] \ [[_{N_1} \ [PP_1 \ [of] \ [_{NP2} \ [Det_2] \ [Mod] \ [N_2]]]]]]\).

3.2 Head-qualifiers

In the head-qualifier constructions, the of-prepositional phrase does not anchor or identify the first noun but qualifies it (Keizer 2007a: 71). The first noun is still the head: it designates what the expression as a whole refers to (i.e. in [23] the angel of death is a type of angel, and in [24] the beast of lower pleasures is a type of metaphorical beast), selects both the determiner (25) and the verb (26), determines the form of the pronoun (27), and takes the plural marker (27). In these constructions the second noun has lost its referential status (i.e. does not refer to a discourse referent) and instead answers the question: What kind of N? by either assigning the ontological status of the first noun (23) and (25) or classifying the head, e.g. in (24) pleasures and pains classifies what type of beast is being referred to (Keizer 2007a: 71–72).

(23) a good little angel of death
(COCA)

(24) Like a beast of lower pleasures, like a beast of lower pains. Mated to a squalid savage, what to me were sun or clime?
(COCA)

(25) Like those beasts of burden, their function is simply to carry ...
(COCA)

(26) If beasts of burden – or indeed any animals – are utilized as offerings,
(COCA)
They are the Angels of Death.

(COCA)

Of no longer has semantic value but functions as a linking element. The first determiner slot is open to a range of determiner types, and first nouns, being countable, can appear in singular or plural form; the second noun is either a mass noun or realized in plural form and therefore, is never preceded by a determiner (Keizer 2007a: 71–72). The first and second nouns do not have to agree in number (27). As with the N + PP, head-qualifiers accept premodification in front of both the first (23) and second nouns (24): \[\text{NP}_1 \text{[Det}_1 \text{(Mod) [N}_1 \text{] [\_LEof] [N}_2 \text{(Mod) [N}_2 \text{)]]}\].

3.3 Evaluative binominal noun phrases

The evaluative binominal noun phrase (EBNP) is an of-binominal construction in which the first noun is either compared to or in a predicative relation with the second, i.e. the second noun is compared with the first or the first ascribes a property (abstract or physical) to the second, as can be seen in Examples (28) and (29). In (28), ‘beastlike’ properties are ascribed to the thing, i.e. the thing is a beast, and in (29), the house (i.e. thing) is being compared to a wedding cake.

(28) ... was thrown out of one slum and only found shelter in another with a drunken beast of a thing who would sit tearing at a steak with his bare hands.

(COCA)

(29) The Tate family’s 1760 house is a wedding cake of a thing.

(ujnews.com)

Structurally, of is mandatory; however, it no longer has semantic value but, as in the case of the head-qualifier construction, rather functions as a linking element (e.g. Aarts 1998; Keizer 2007a; or an empty copula (Den Dikken 2006: 166)). The first determiner slot is open for all types of determination, but the prototypical determiner is the indefinite article (e.g. Austin 1980; Aarts 1998; Keizer 2007a; Kim and Sells 2015: 44). The first determiner has scope over the first and the second noun as shown in (30a)–(30b). The second determiner is canonically an indefinite article; it marks number, meaning that, although it is prototypically
an indefinite article, it can be a zero article when the first and second nouns are plural ([31]; discussed in detail in Keizer 2005). However, it no longer functions as a marker of identifiability and as such cannot take the form of a definite article (32a).

(30) a. your jerk of a brother
   b. Your brother is a jerk.
   (Aarts 1998: 131)

(31) if that wasteful old hussy isn't getting up a feast for those beasts of Indians!
   (COHA)

(32) a. I met a colourless little mouse of a woman/*the woman.
   b. I met a colourless little mouse of a woman yesterday.
   c. I met a woman/a colourless little mouse yesterday.
   (Aarts 1998: 118)

Based on the semantic tests of obligatoriness and omissibility (32b–c), syntactic extraposition and topicalization, and pronominalization (see Keizer (2007a: 97–100) for a discussion of relevant data), it can be concluded that the second noun canonically functions as the semantic head, if not the syntactic head (see Kim and Sells 2015 for discussion). The first noun no longer has referential status, but has some sort of construable value/evaluative judgement (Constantinescu 2011; Keizer 2007a: 86–87). N₁ can still appear in plural (31) and singular form (32). N₁ can be used figuratively (Kim and Sells 2015: 50–51) and must be evaluative or construed as evaluative, hence the irregularity in Example (33) (Aarts 1998: 121; Keizer 2007a: 86). N₂ must agree with N₁ in terms of number, although this is semantic rather than syntactic number as can be seen with collective nouns ([34]; Keizer 2007a: 96–97, 99). N₂ must be countable (32a), a collective noun (34) or a proper noun (35). It does not take a mass noun (Keizer 2007a: 91–92). The underlying syntactic structure suggested by this analysis is \[\text{NP}_1 \left[ \text{Det}_1 \left( \text{Mod} \right) \left[ \left[ \text{MP} \right. \right. \left. \left. \text{hell of a} \right]^{13} \left( \text{Mod} \right) \left[ \text{N}_1 \right] \right] \right] \].

12 The reason being, as pointed out by Keizer (2007a: 92), that a mass noun would trigger a head-qualifier reading of the NP.
13 MP is a modifier phrase.
14 This analysis is controversial (see Kim and Sells 2015 for an overview of this discussion). However, the choice of one underlying representation over the other does not really change the results or arguments presented in this paper, and therefore, a more in-depth discussion of the EBNP's underlying representation will be left out.
As mentioned in the introduction, modifiers in front of the first noun can be selected by (Aarts 1998: 132) and/or have scope over \(N_1\) or \(N_2\) (Kim and Sells 2015: 47). *Burst*, in (36a), is clearly selected by \(N_1\) and has scope over \(N_1\). In (36b), *anecdotal* is clearly selected by \(N_2\) and has scope over the whole construction. In (36c), *hungry-looking* is clearly selected by *fellow* and *mere* by *wisp*.

(36) a. *a big ol’ burst* balloon of a comedown.
   (COCA)
   b. *a magnificent anecdotal* monster of a novel
   (COCA)
   c. *a hungry-looking mere wisp of a fellow*
   (COCA)

These irregular premodification patterns will be discussed in more detail in Section 5.3 with the empirical study’s findings.

### 3.4 Evaluative modifiers

The evaluative modifier category is a new of-binominal category, not discussed in previous accounts of the EBNP (Ten Wolde and Keizer 2016; Ten Wolde 2018)). In this construction, the ascription of descriptive properties found in some EBNPs is lost, and the underlying subjective evaluation is foregrounded. The semantics of the EM can be broken down into two elements: on the one hand, there is the speaker evaluativity (pragmatic function) similar to Dixon’s (1982) VALUE modifier and Adamson’s (2000) affective modifiers that expresses speaker evaluation of the second noun, i.e. the speaker no longer ascribes a property onto the head, but the first noun denotes the speaker’s evaluation of the second noun. On the other hand, there is an implied scalar
extreme, i.e. *a hell of a time* is not just *a good time* but *the best of times*. In an EM, the construction construes the first noun as expressing an evaluative, bounded, extreme (either negative or positive) on or beyond a profiled scale (see Examples [37]–[39]; cf. Paradis 1997, Paradis 2001; Morzycki 2012; Rett 2015).

(37) *It was a hell of a night* for a meeting – with the storm going and the river about to blow.
(COCA)

(38) “*Y*’ever hear what Kennedy said three hours before he was shot?” he asked, putting on his best Massachusetts accent. “You know, last night would’ve been *a hell of a night* to kill a President.”
(COCA)

(39) *It was two years ago at Bethpage Black, a beast of a golf course* anyone could play for $31, where raucous New Yorkers cheered for Phil Mickelson, razzed Sergio Garcia and left amazed at the incomparable Tiger Woods ... That’s hardly the case now.
(COCA)

Example (37) is a possible example of a bridging construction between the two categories: it clearly marks the speaker’s emphasis on the negative features of the night (i.e. stormy, dangerous) and could be analyzed either as a negative EM, *a very bad night*, or as an EBNP in that it ascribes ‘hellish’ features onto that particular night, *a hellish night*. By way of comparison, in Example (38), a clear EM, the semantic prosody has unmistakably changed: the irony hinges on the fact that Kennedy is claiming that it would have been a very fortuitous night to kill a president. Finally, (39) is an example with *beast* in the EM construction, and here, like in the second example with *hell*, the property ‘beast’ is no longer evoked; instead the construction serves to express the speaker’s subjective judgment of the golf course. Therefore, *a beast of a golf course* could be an evaluation of the difficulty of the course or indicate the speaker’s unfavorable or favorable evaluation of the course: the hearer needs the context to understand (from the context in [39], it appears that the speaker is expressing strong approval).

The EM functions very similarly to extreme adjectives (Paradis 1997, Paradis 2001; Morzycki 2012; Rett 2015 absolute adjective). However, morphosyntactically, they take a different form (which naturally eliminates some of the diagnostic tests that Morzycki (2012: 571–573) and other researchers
[i.e. Cruse 1986] propose), and semantically, these constructions do not have antonyms and do not inherently encode a particular semantic scale, for example, gigantic encodes the size scale, intrinsically entailing the more neutral form big, while hell does not entail a scale. This lack then forces the listener to rely on context to select the scale implied. The feature of the second noun that the speaker wishes to enforce very often depends on the second noun used and requires context and/or social/cultural knowledge to interpret (see Examples [37]–[39]).

Structurally the EM has the form [[Det₁] [MP N₁ of a] [N₂]]. As in the EBNP, the element of is mandatory and does not carry meaning. The first determiner slot remains open to all types of determination and is canonically filled by the indefinite determiner or by emphatic use of one/some. The second determiner in the EM is predominantly indefinite singular or bare; however, whereas the EBNP’s second determiner still encodes number, in the EM this function has been lost. This is demonstrated most clearly by the fact that even with a countable N₂, examples where the second determiner has been dropped can be found both in the corpora (i.e. COHA and COCA) as well as on the internet (for corpus examples see [40] and [41]). Thus, both the preposition and the determiner are syntactically redundant. Since the first and second noun are always singular, the first determiner has scope over the whole construction, which can be seen in the examples where the second determiner has been dropped. This would also explain why the EM is then reduced from [hell of a] to a single orthographic unit helluva and finally hella or beastuva, whaleuva, as exemplified in (42)–(43) (this reduction is also discussed in Trousdale 2012; Bucholtz et al. 2007).18

(40) A little wild blood would breed a good horse. And a hell of man too, it might be.

(COCA)

15 With regard to Morzycki’s (2016: 141–142) central criteria, EMs would seem to be able to occur with extreme degree modifiers: it was a full-on whale of a time, they can be intensified by prosodic prominence: we had a whaaaaaaaale of a time, and they resist comparatives: *it was more of a whale of time than last time.

16 Although these changes might have allowed this phonetic reduction to take place, there are other factors that would play a role, i.e. medium (EBNP is predominantly written and EM is spoken) and frequency.

17 There are only a few examples of beastuva on the internet and mostly from blogs or forums. More prolific is whaleuva and helluva.

18 Trousdale (2012) links hell’s phonological reduction to the intensifier usage, i.e. the next stage, and Bucholtz et al. (2007) discusses the phenomenon in reference to California dialectology.
(41) Just want to call to congratulate you, and tell you you’re doing a hell of job.
(COCA)

(42) “And a helluva recommendation we would get from him, too, I bet yer!”
(COHA)

(43) you’d better be one hella witch to keep me from strangling you.
(COHA)

(44) Tom Hirst, who has done a whaleuva job of organizing everything,
(Google Books)¹⁹

Applying the semantic and morpho-syntactic tests for headedness in a NP
(for details see Keizer 2007a: 9–21), N₂ designates the overall referent of the
construction (45a)–(45c) and semantically selects other elements in the lin-
guistic context (e.g. turn in [46] or where in [47]); this suggests that N₂ is the
semantic head. As to the syntactic head, since both N₁ and N₂ appear in
singular form, verb agreement cannot function as an indicator.²⁰ As with the
EBNP, the first determiner is clearly selected by the second noun (48),
and this indicates that N₂ is the syntactic head. Finally, pronominal refer-
ence also selects the second noun (49): the second noun is thus also the
discourse head. This means that the second noun is the unambiguous head
of the NP.

(45) a. making the point that Washington is a hell of a party town.
(COHA)
    b. making the point that Washington is a party town.
    c. *making the point that Washington is a hell.

(46) They’re tumblers of sorts, people who know how to turn one hell of a
spiritual somersault...
(COHA)

    fBdbAAAAAYAAJ&pg=PA58&dq=whaleuva+job&hl=de&sa=X&redir_esc=y#v=onepage&q=whaleuva
    %20job&f=false.

²⁰ There are cases of plurals: If force is used, it may cause hell of problems in all the Arab
world, especially the friends of the United States (COCA), but in cases such as these it could be
argued that the construction functions more as a quantifier.
(47) It was two years ago at Bethpage Black, a beast of a golf course anyone could play for $31, where raucous New Yorkers cheered.

(COCA)

(48) China, with its 1.3 billion people and beast of an economy, is shopping the world for oil.

(COCA)

(49) A hell of a warrior. Too bad she is paying such a cost.

(COCA)

As an evaluative modifier, this construction is placed on the left of the premodifier zone (see Kotowski and Härtl’s (this issue) absolute gradables, also Cinque’s 1994 stage level-adjectives, Dixon’s 1982 VALUE adjective, Adamson’s 2000 absolute adjectives, Scott’s 2002 subjective comment). Modification in front of the first noun is rare, and when a modifier does fill this position, it is selected by the second noun or is ambiguous (50), or it is a degree modifier of the whole noun phrase (51). Modifiers in front of the second noun tend to be classifiers (52). Therefore the underlying form would be $[[\text{Det}_1 \ (\text{Mod}) \ [\text{MP}_1 \ N_1 \ of \ a] \ (\text{Mod}) \ [N_2]]].$

(50) a hard-charging beast of a movie

(COCA)

(51) an utter beast of a graphics card

(COCA)

(52) a hell of a sophomore year

(COCA)

4 Data and data analysis

This study uses data from the Corpus of Contemporary American English (COCA; Davis 2008). The dataset was derived by a basic type search for nouns that collocate with of, i.e. [N of]. The project was restricted to the most frequent first nouns which exhibited EBNP usage in the synchronic data (i.e. the 1000 most

21 Premodification primarily appears in front of the second noun (hence the bold), and the premodification zones in front of the first noun have a very restricted usage.
frequent collocates). This resulted in 119 types of which all the tokens in COCA were compiled into a sub-corpus.

This large dataset of over 30,000 tokens was reduced by a number of factors. First, because the EBNP is predominantly used with singular nouns, this study only includes examples where the first nouns are in singular form. Second, those first nouns that have developed EM usages were automatically included in the dataset, i.e. bastard, beast, bitch, devil, dog, hell, honey, monster, whale, and bitch. The other types that were included were chosen from three semantic groupings: animate first nouns (e.g. warhorse, lion, bear), inanimate (e.g. ball, egg, cake, whisper) and evaluative (e.g. demon, disaster). Because the animate group did not include any high frequency first nouns and is a relatively small group with only 16 types, all animate first nouns were included. For the other two groups, the selection criteria were based on token frequency. The first nouns with high token numbers were separated and only one was chosen from each semantic category: ball (450 examples with modifiers) and nightmare (204 examples with modifiers). The remaining types included were chosen randomly.

From this smaller dataset, I excluded examples along the following criteria. Those that form semantic collocates with the verb, as in Examples (53) and (54), were excluded. Also deleted are idiomatic of-binominals such as Example ([55]; cf. Keizer 2016 for a discussion on the complexity of modifiers in idioms). Alternative meanings of polysemous first nouns such as the ball meaning dances, ball referring to parts of feet, hands, and fingers, and bull for papal bulls were excluded from the sample.

(53) She’d made a complete fool of herself.
(COCA)

(54) The U.S. military is a machine that’s basically going to kick the ass of every other country around the world.
(COCA)

(55) Donald Trump is a completely different ball of wax.
(COCA)

Each entry was then tagged for a range of variables: the type of construction (using the criteria discussed in Section 3), and place of premodification (in front of the first noun \[N_1\] or the second noun \[N_2\]). Keeping in mind that one purpose of the study is to see if the second noun’s selection of premodifiers that appear in front of the first noun is a significant pattern for the EBNP (see Section 1), the premodifiers in front of the first noun were also tagged for their possible selector...
(0=ambiguous [56a], 1=clearly the first noun [56b], 2=clearly the second noun [56c]). For the analysis, the selector categories were merged into two larger groupings: group 0 for both those modifiers clearly selected by the first noun and the ambiguous examples (the underlying assumption being that if they are ambiguous, they can be assumed to have been selected by the first noun). Those clearly selected by the second noun were in group 2. This resulted in two selector categories, 0 and 2. Finally, each premodifier was tagged for the zone that it filled. Should the usage be ambiguous even with the context, then both zones were tagged, e.g. in Example (57), immense could be either an objective or a subjective descriptive modifier and was then tagged as both.

(56) a. A nurse who attended him after Dr. Swan’s nine hours of surgery remembers a young man in what seemed to be an eternal nightmare of pain.
   (COCA)

b. To avoid your toddler being labeled the mean monster of the playground ...
   (COCA)

c. The F5-category monster of a funnel cloud arrived in the dark and revealed itself through terrifying flashes of light.
   (COCA)

(57) And the entire sea, from all sides – I repeat – continued to escape towards that one point, forming, as it traveled, an immense globe of water.
   (COCA)

The statistical method used is the Hierarchical Configural Frequency Analysis (HCFA; cf. von Eye 2002; Gries 2009; Hilpert 2013). This is a multi-factorial analysis that essentially functions as a chi-square test for multiple vectors. As an exploratory method, it tests the significance of all variable combinations against the frequencies expected by chance (Hilpert 2013: 56). If a two or three way configuration has a significantly higher frequency than expected, then it is defined as a “type” for that particular construction; if a combination of variables is significant in its low frequency, it is an antitype (cf. Gries 2009; Hilpert 2013: 55–56). Therefore, the questions being addressed here are (i) if it is possible to identify types and anti-types in the premodification patterns of these of-binominals constructions, and (ii) if so, which features characterize the patterns for each of these constructions. The results were calculated using Gries’s (2009) HCFA 3.2 package for R, with the Holm’s test.

Two analyses were conducted. The first was for the premodification distribution between the first and second noun in each construction and based on the raw
frequency premodification figures (Table 1). The second included all the variables: construction, premodifier placement (N₁ or N₂), selector and zone. In order to not skew the results to more premodification heavy constructions (such as the N+PP and the EBNP) and because the ultimate question addressed in this paper is the use of which premodifier zones are characteristic for each construction, the second analysis is conducted using frequency of zones being filled and not raw premodification figures. This means that in an example such as a tall bearded bear of a man, the two objective descriptive modifiers would only count as a single objective modifier.

In the following section, the results for both analyses are presented followed by a brief discussion, and then a Functional Discourse Grammar explanation of the data is given.

5 Statistical analysis

5.1 Premodification distribution between noun 1 and noun 2

The results of the first analysis, concerning the concentration of premodification in front of the first and second noun, are listed in Table 2 below. Although all variations of the combinations of variables (construction and placement) were found to be significant, some patterns are more significant than others. For the N+PP, in comparison with the other of-binominals, the observed frequency in front of the first noun was significantly less than that of the expected frequency, and it is therefore an anti-type. The opposite is true for premodification in front of the second noun: it is a type. For the head-qualifier, the premodification placement is only minimally significant, where placement in front of the first noun is more characteristic than that in front of the second noun. This pattern is stronger for the EBNP, which demonstrates a significant preference for premodifiers in front of the first noun and a significant lack of premodification in front of the second. Finally, the opposite is true for the EM, where premodification in front of the second noun is a type and in front of the first noun is an anti-type. In the next section, the information from this first analysis will
be integrated into the more detailed results from the second analysis in order to create an overall profile for each construction.

### 5.2 Premodification profile for constructions

#### 5.2.1 N+PP constructions

As stated in the section above, despite the higher raw frequency numbers for first noun premodification (1033 instances) when compared to the second noun (791 tokens), premodification in front of the second noun is a type, and premodification in front of the first noun an anti-type (see Table 2). This construction and the EM are the only ones which are characterized by frequent use of the zones in front of the second noun. Therefore, in relation to the other constructions it would make sense that N$_2$ zones in the N+PP construction would be significant, since the head-qualifier and particularly the EBNP are characterized by their usage of zones in front of N$_1$, and the EM has, overall, very little premodification. In the same respect, when compared to the relative frequency of N$_1$ premodifiers in the other constructions, it is clear why, despite the high observed frequency of premodifiers in N$_1$ zones in the N+PP, it is still an anti-type.

#### Table 2: Frequency distribution of premodification between the first and second noun for the four of-binominals. The types (i.e. the observed frequency is higher than the expected frequency) are highlighted in light grey, and the anti-types (i.e. the observed frequency is lower than the expected frequency) are in dark grey. ($X^2 = 100.12$, df = 3, $p < 0.001$, N = 3685).

<table>
<thead>
<tr>
<th>construction</th>
<th>placement</th>
<th>observed freq.</th>
<th>expected freq.</th>
<th>$X^2$</th>
<th>p value</th>
<th>effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>N+PP</td>
<td>Noun$_1$</td>
<td>1033</td>
<td>1143.90</td>
<td>10.75</td>
<td>0.0001</td>
<td>0.04</td>
</tr>
<tr>
<td>N+PP</td>
<td>Noun$_2$</td>
<td>791</td>
<td>680.10</td>
<td>18.08</td>
<td>8.41e-06</td>
<td>0.04</td>
</tr>
<tr>
<td>Head-qualifier</td>
<td>Noun$_1$</td>
<td>814</td>
<td>771.38</td>
<td>2.36</td>
<td>0.04</td>
<td>0.02</td>
</tr>
<tr>
<td>Head-qualifier</td>
<td>Noun$_2$</td>
<td>416</td>
<td>458.62</td>
<td>3.96</td>
<td>0.03</td>
<td>0.01</td>
</tr>
<tr>
<td>Evaluative binominal NP</td>
<td>Noun$_1$</td>
<td>444</td>
<td>341.16</td>
<td>30.99</td>
<td>7.88e-08</td>
<td>0.03</td>
</tr>
<tr>
<td>Evaluative Binominal NP</td>
<td>Noun$_2$</td>
<td>100</td>
<td>202.84</td>
<td>52.14</td>
<td>1.54e-15</td>
<td>0.03</td>
</tr>
<tr>
<td>Evaluative modifier</td>
<td>Noun$_1$</td>
<td>20</td>
<td>54.56</td>
<td>21.89</td>
<td>1.55e-07</td>
<td>0.01</td>
</tr>
<tr>
<td>Evaluative modifier</td>
<td>Noun$_2$</td>
<td>67</td>
<td>32.44</td>
<td>36.82</td>
<td>3.13e-07</td>
<td>0.01</td>
</tr>
</tbody>
</table>
When looking at the individual zones (Table 3), a similar picture appears: the premodification patterns of the N+PP are characterized by its usage of both of the classifier zones with their respective nouns as selectors, i.e. 0 for N1 or an ambiguous selector and 2 for N2 as the selector of the modifier. The same applies for both subjective descriptor zones and both of the objective descriptor zones, although only the one in front of the second noun is significant. Again, the objective descriptive zone in front of N1 is used, but in comparison with the other of-binominals where this zone is often a strong type, its use in the N+PP is not as significant (for a visual overview of the distribution between zones see Figure 4).

Table 3: Important constellations of variables for premodification in the N+PP. The types (i.e. the observed frequency is higher than the expected frequency) are highlighted in light grey, and in white are nonsignificant features important for the discussion. (X² = 4017.77, df = 66, p < 0.001, N = 3685).

<table>
<thead>
<tr>
<th>selector zone</th>
<th>placement</th>
<th>observed freq.</th>
<th>expected freq.</th>
<th>X² contribution</th>
<th>p-value</th>
<th>effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 classifier</td>
<td>Noun₁</td>
<td>435</td>
<td>194.87</td>
<td>295.87</td>
<td>9.81e⁻⁵²</td>
<td>0.08</td>
</tr>
<tr>
<td>0 obj descriptive</td>
<td>Noun₁</td>
<td>290</td>
<td>273.36</td>
<td>1.01</td>
<td>ns</td>
<td>0.01</td>
</tr>
<tr>
<td>0 subj descriptive</td>
<td>Noun₁</td>
<td>187</td>
<td>138.61</td>
<td>16.90</td>
<td>0.002</td>
<td>0.02</td>
</tr>
<tr>
<td>0 adj intensifier noun intensifier</td>
<td>Noun₁</td>
<td>17</td>
<td>12.44</td>
<td>1.67</td>
<td>ns</td>
<td>0.001</td>
</tr>
<tr>
<td>0 noun intensifier</td>
<td>Noun₁</td>
<td>16</td>
<td>13.33</td>
<td>0.55</td>
<td>ns</td>
<td>0</td>
</tr>
<tr>
<td>2 classifier</td>
<td>Noun₂</td>
<td>335</td>
<td>123.84</td>
<td>360.03</td>
<td>2.15e⁻⁵⁶</td>
<td>0.07</td>
</tr>
<tr>
<td>2 obj descriptive</td>
<td>Noun₂</td>
<td>255</td>
<td>87.36</td>
<td>321.68</td>
<td>5.54e⁻⁴⁸</td>
<td>0.05</td>
</tr>
<tr>
<td>2 subj descriptive</td>
<td>Noun₂</td>
<td>117</td>
<td>33.13</td>
<td>212.31</td>
<td>2.47e⁻²⁸</td>
<td>0.02</td>
</tr>
<tr>
<td>2 adj intensifier</td>
<td>Noun₂</td>
<td>6</td>
<td>1.77</td>
<td>10.06</td>
<td>ns</td>
<td>0.001</td>
</tr>
<tr>
<td>2 noun intensifier</td>
<td>Noun₂</td>
<td>9</td>
<td>2.17</td>
<td>21.51</td>
<td>0.02</td>
<td>0.002</td>
</tr>
</tbody>
</table>

One interesting feature is that this is the only construction where the use of the noun intensifier slots in front of second noun is a defining feature: the observed frequency for modification in the degree modifier zones is low even in the large N+PP sample, but N₂ degree modifiers almost completely disappear in the
constructions that develop from this construction. The other intensifier zones are not significant.

5.2.2 Head-qualifiers

In the head-qualifiers, the distribution of premodification between the first and second nouns is only slightly significant with first noun premodification as a weak type and second noun premodification a weak anti-type (Table 2). When looking at the individual zones (without the selector dimension), none of the frequencies are significant for the head-qualifier. However, with the selector variable (Table 4), defining zones are the subjective and objective descriptor zones in front of both the first and second noun and with those respective nouns as selectors, e.g. the objective descriptive modifier in front of noun one is selected by the first noun etc. The classifier in front of the second noun, selected by the second noun, is significant; this is not true for the classifier in front of the first noun. Figure 5 shows the distribution of the premodification in all ten zones.

None of the intensifier zones are significant for the head-qualifier. In the head-qualifier examples, there is only one example with a noun intensifier in the noun intensifier zone in front of the second noun, but this lack of usage is not an anti-type. It is probably not significant in the overall figures because the $N_2$

![Relative frequency percentages for the N+PP for each zone. Percentages are based on the total number of N+PP premodifiers.](image)

**Figure 4:** Relative frequency percentages for the N+PP for each zone. Percentages are based on the total number of N+PP premodifiers.

CL = classifier, DEO = objective descriptive modifier, DES = subjective descriptive modifier, AI = adjective intensifier, NI = noun intensifier. 1 as in CL1 is a classifier in front of the first noun; CL2 is a classifier in front of the second noun etc.
Table 4: Important constellations of variables for premodification in the head-qualifier. The types (i.e. the observed frequency is higher than the expected frequency) are highlighted in light grey, and in white are nonsignificant features important for the discussion. ($\chi^2 = 4017.77$, df = 66, $p < 0.001$, N = 3685).

<table>
<thead>
<tr>
<th>selector</th>
<th>zone</th>
<th>placement</th>
<th>observed freq</th>
<th>expected freq</th>
<th>$\chi^2$ contribution</th>
<th>p value</th>
<th>effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>classifier</td>
<td>Noun$_1$</td>
<td>143</td>
<td>133.45</td>
<td>0.68</td>
<td>ns</td>
<td>0.003</td>
</tr>
<tr>
<td>0</td>
<td>obj descriptive</td>
<td>Noun$_1$</td>
<td>410</td>
<td>187.19</td>
<td>265.20</td>
<td>1.38e-46</td>
<td>0.07</td>
</tr>
<tr>
<td>0</td>
<td>subj descriptive</td>
<td>Noun$_1$</td>
<td>145</td>
<td>94.91</td>
<td>26.43</td>
<td>3.96e-05</td>
<td>0.02</td>
</tr>
<tr>
<td>0</td>
<td>adj intensifier</td>
<td>Noun$_1$</td>
<td>16</td>
<td>8.52</td>
<td>6.57</td>
<td>ns</td>
<td>0.002</td>
</tr>
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<td>0</td>
<td>noun intensifier</td>
<td>Noun$_1$</td>
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<td>9.13</td>
<td>2.60</td>
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<td>0.001</td>
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<tr>
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<td>Noun$_2$</td>
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<td>Noun$_2$</td>
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<td>1.30e-26</td>
<td>0.03</td>
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<tr>
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<td>0.01</td>
<td>0.01</td>
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<tr>
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<td>adj intensifier</td>
<td>Noun$_2$</td>
<td>3</td>
<td>1.22</td>
<td>2.62</td>
<td>ns</td>
<td>0.001</td>
</tr>
<tr>
<td>2</td>
<td>noun intensifier</td>
<td>Noun$_2$</td>
<td>1</td>
<td>1.49</td>
<td>0.16</td>
<td>ns</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 5: Relative frequency percentages for the head-qualifier for each zone. Percentages are based on the total number of head-qualifier premodifiers.
intensifier zones are also not used in the EBNP and the EM. Even with the N+PP, where the zone is a type, the noun intensifier usage is very infrequent.

5.2.3 Evaluative binominal noun phrases

In the EBNP there is a preference for premodification in front of the first noun: premodification before \(N_1\) is a significant feature for this construction as is the lack of premodification before \(N_2\) (see Table 2). The figures (see Table 5) show

Table 5: Important constellations of variables for premodification in the EBNP. The types (i.e. the observed frequency is higher than the expected frequency) are highlighted in light grey, the anti-types (i.e. the observed frequency is lower than the expected frequency) are in dark grey, and in white are nonsignificant features important for the discussion. \(X^2 = 4017.77, df = 66, p < 0.001, N = 3685\).

<table>
<thead>
<tr>
<th>selector zone</th>
<th>placement</th>
<th>observed freq</th>
<th>expected freq</th>
<th>(X^2) contribution</th>
<th>p value</th>
<th>effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 classifier</td>
<td>Noun(_1)</td>
<td>73</td>
<td>56.54</td>
<td>4.79</td>
<td>ns</td>
<td>0.005</td>
</tr>
<tr>
<td>2 classifier</td>
<td>Noun(_1)</td>
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<td>37.65</td>
<td>35.68</td>
<td>8.18e-14</td>
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<tr>
<td>0 obj descriptive</td>
<td>Noun(_1)</td>
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<td>79.32</td>
<td>72.21</td>
<td>9.07e-13</td>
<td>0.02</td>
</tr>
<tr>
<td>2 obj descriptive</td>
<td>Noun(_1)</td>
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<td>52.81</td>
<td>7.43</td>
<td>0.09</td>
<td>0.006</td>
</tr>
<tr>
<td>0 subj descriptive</td>
<td>Noun(_1)</td>
<td>100</td>
<td>40.22</td>
<td>88.87</td>
<td>5.89e-14</td>
<td>0.02</td>
</tr>
<tr>
<td>2 subj descriptive</td>
<td>Noun(_1)</td>
<td>9</td>
<td>26.78</td>
<td>11.8</td>
<td>0.003</td>
<td>0.005</td>
</tr>
<tr>
<td>0 adj intensifier noun intensifier</td>
<td>Noun(_1)</td>
<td>8</td>
<td>3.61</td>
<td>5.34</td>
<td>ns</td>
<td></td>
</tr>
<tr>
<td>0 adj intensifier noun intensifier</td>
<td>Noun(_1)</td>
<td>11</td>
<td>3.87</td>
<td>13.16</td>
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<tr>
<td>2 classifier</td>
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<td>2 subj descriptive</td>
<td>Noun(_2)</td>
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<td>9.61</td>
<td>0.04</td>
<td>ns</td>
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<tr>
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<td>0.52</td>
<td>0.52</td>
<td>ns</td>
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<tr>
<td>2 noun intensifier</td>
<td>Noun(_2)</td>
<td>1</td>
<td>0.63</td>
<td>0.22</td>
<td>ns</td>
<td></td>
</tr>
</tbody>
</table>
that the classifier zone in front of $N_2$ is significant as is the use of both descriptive zones in front of the first noun when the first noun selects the modifier. It is also in these two zones where examples of premodifiers selected by the second noun can be found; however, both of these constellations (i.e. objective descriptive modifier with $N_2$ as selector and placed in front of $N_1$, and subjective descriptive modifier with $N_2$ as selector and placed in front of $N_1$) are anti-types. Therefore, contrary to initial intuitions, the selector noun variable is not a significant feature of this construction. Other nonsignificant features are the use of all the intensifier zones, the classifier zone in front of the first noun, and both the descriptor zones before the second. Figure 6 shows the distribution of EBNP premodifiers for each zone.

**Figure 6:** Relative frequency distribution for the EBNP for each zone. Percentages are based on the total number of evaluative modifier premodifiers.

### 5.2.4 Evaluative modifiers

The distribution of premodification in the EM is the inverse from that of the EBNP: a significant feature of this construction is premodification in front of $N_2$ and the lack of premodification in front of $N_1$ is an anti-type (see Table 2). Distinguishing features of the EM premodification profile (as shown on Table 6 and Figure 7) are the use of the classifier zone in front of the second noun (with modifiers selected by the second noun) and the lack of classifiers in front of the first noun (with $N_1$ selectors). Another anti-type is the lack of
Table 6: Important constellations of variables for premodification in the EM. The types (i.e. the observed frequency is higher than the expected frequency) are highlighted in light grey, the anti-types (i.e. the observed frequency is lower than the expected frequency) are in dark grey, and in white are nonsignificant features important for the discussion. ($X^2 = 4017.77$, $df = 66$, $p < 0.001$, $N = 3685$).

<table>
<thead>
<tr>
<th>selector</th>
<th>zone</th>
<th>placement</th>
<th>observed freq</th>
<th>expected freq</th>
<th>$X^2$</th>
<th>p value</th>
<th>effect size</th>
</tr>
</thead>
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<tr>
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<td>10.12</td>
<td>0.002</td>
<td>0.003</td>
</tr>
<tr>
<td>0</td>
<td>obj descriptive</td>
<td>Noun_1</td>
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<td>14.2</td>
<td>7.33</td>
<td>0.06</td>
<td>0.003</td>
</tr>
<tr>
<td>0</td>
<td>subj descriptive</td>
<td>Noun_1</td>
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<td>7.12</td>
<td>0.45</td>
<td>ns</td>
<td>0.001</td>
</tr>
<tr>
<td>0</td>
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<td>0</td>
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<td>0</td>
<td>noun intensifier</td>
<td>Noun_1</td>
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<td>ns</td>
<td>0.001</td>
</tr>
<tr>
<td>2</td>
<td>classifier</td>
<td>Noun_2</td>
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<td>515.20</td>
<td>$3.31e^{-39}$</td>
<td>0.017</td>
</tr>
<tr>
<td>2</td>
<td>obj descriptive</td>
<td>Noun_2</td>
<td>2</td>
<td>4.54</td>
<td>1.42</td>
<td>ns</td>
<td>0.001</td>
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<td>2</td>
<td>subj descriptive</td>
<td>Noun_2</td>
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<td>1.7</td>
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<td>2</td>
<td>adj intensifier</td>
<td>Noun_2</td>
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<tr>
<td>2</td>
<td>noun intensifier</td>
<td>Noun_2</td>
<td>0</td>
<td>1.49</td>
<td>0.16</td>
<td>ns</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 7: Relative frequency distribution for the EM for each zone. Percentages are based on the total number of evaluative modifier premodifiers.
objective descriptive modifiers in front of the first noun, which was so characteristic for the head-qualifier (Table 4) and the EBNP (Table 5). The lack of subjective and objective descriptive modifiers selected by and in front of the second noun is not significant. The lack of use of the intensifier zones is also not significant.

5.3 Summary

If the diachronic cline presented in Figure 1 (and argued in Ten Wolde and Keizer 2016) is correct, the synchronic analysis presented in this paper can be accounted for as follows. The N+PP exhibits predominantly prototypical premodification: its use of the second noun premodifier zones is significant in the context of their lack of significance in the other constructions (although it is a defining feature for the EM, the observed frequencies there are very low). Otherwise, in the N+PP the use of almost all the zones is significant except the intensifier zones in front of the first noun (which is not significant in any of the constructions) and the adjective intensifier zone in front of the second noun. Of note is the significant use of the second noun intensifier zone. In the head-qualifier, none of the intensifier zones are significant, although the construction is characterized by its use of the remaining zones. Furthermore, the single noun intensifier token in front of the second noun is freaking, a substitute for the expletive fucking, in the angel of freaking death, and expletives are well-documented for not respecting phrase or word boundaries, i.e. that is un-fucking-believable, and for defying word order rules. Therefore, this example does not provide robust proof that this zone is still in use. In the EBNP, the premodification is predominantly found in front of the first noun and characteristically in the descriptive zones, and the descriptive modification in the second noun zones are not significant. Finally, the EM premodification is found in front of the second noun, predominantly taking the form of classifiers. The selector variable did not play a central role in the premodification profiles, as was initially expected. Primarily this may be because the selector noun was usually ambiguous, and there were too few clear examples of premodifiers selected by the second noun in front of the first noun.

What the zone-based approach then provides is the detailed categories that allow for the coding of the data for the statistical analysis; what it fails to provide is a hypothesis or likely explanation as to why these patterns exist. In the following section, I present an FDG explanation of these phenomena using examples with the first noun hell.
6 Functional discourse analysis of the modification patterns

6.1 N+PP constructions

This construction is posited as the prototypical example of the of-binominal: the first noun is the head, both nouns can take the singular and plural form and do not have to agree in number, and both nouns can be preceded by a determiner indicating their identifiability and number. It is, therefore, posited that both nouns can canonically take all forms of premodification (unless otherwise stipulated by the head, i.e. in the case of a proper noun). Examples (58a–d) show a simplified FDG representation of the noun phrase in bold in (58).22

(58) “You can’t play,” a kid will say, and consign another to the hell of the outcast, and himself to the role of bully.
(COCA)

a. IL: (+id R₁: [(T₁) (+id R₂: (T₂) (R₂))] (R₁))
b. RL: (Ix₁: (f₁: hell (f₁))): (f₂: [(f₃: ofAdp (f₃)) (x₂: (f₄: outcast (f₄)) (x₂))Ref] (f₂)) (x₁))
c. ML: (Np₁: [(Gw₁: the (Gw₁)) (Nw₁: hell (Nw₁)) (Adpp₁: [(Adpw₁: of (Adpw₁)) (Np₂: (Gw₂: the (Gw₂)) (Nw₂: outcast (Nw₂)) (Np₂))] (Adpp₁)]) (Np₁))

In this example the prepositional phrase restricts the reference of the noun phrase by indicating possession or assigning a property to the referent. During the operation of formulation, the speaker’s intention is then represented at the Interpersonal Level as two Referential Subacts (R₁ and R₂). Both Referential Subacts are marked as identifiable (+id) and contain a property represented by the variable (T). At the Representational Level, the semantic representation comprises two Individuals (x₁ and x₂); the second of which has the semantic function of Reference (Ref) (a general function indicating argument status, in this case in relation to the adposition of). The first Individual (x₁), headed by the Property “hell”, represents the referent of the expression as a whole; the second Individual (x₂), corresponds to the referent “outcast”, and the preposition of is a lexical item indicating possession. Because there is a high

22 The Phonological Level [PL; see (4d) for an example] has been omitted in all the FDG underlining representations since it does not play a significant role in this analysis.
degree of transparency between the Interpersonal and Representational Levels, with Referential Subacts (R) at the Interpersonal Level correlating with Individuals (x) at the Representational Level, there is relatively straightforward encoding at the Morphosyntactic Level: the two Individuals are encoded as Noun Phrases (Np₁ and Np₂). The Noun Word (Nw₁) hell functions as the head of the overall expression, followed by an Adpositional Phrase (Adpp₁), consisting of the adposition of and the second Noun Phrase the outcast. The relative transparency between the different levels would then predict relatively prototypical premodification on both the Interpersonal and the Representational Level.

### 6.2 Head-qualifiers

In the head-qualifier, the second noun has lost its referential status and defines hell’s ontological status, e.g. a hell of factories. Because the second noun phrase is no longer referential, in the FDG analysis, as exemplified in (59), the second referent is lost at the Interpersonal Level (59a). Instead, it is evoked as a property (T₂). However, although the second noun does not evoke a referent, it still designates a referent (set) in extra-linguistic reality and is therefore still analyzed as an Individual on the Representational Level (59b). This in turn would account for the fact that it can still accept premodification and be realized in the plural form as demonstrated in (60); consequently, T₂ is realized as a separate Individual (x₂). This results in a mismatch between the Interpersonal and Representational Levels, because an Ascriptive Subact (T) at the Interpersonal Level is usually realized by a Property (f) at the Representational Level; it now corresponds to an Individual (x) and is then subsequently encoded as a Noun phrase. Of no longer has semantic content and does not appear on the Representational Level; however, it is part of the encoding at the Morphosyntactic Level to link two Individuals not in a compounding relation.

(59) Yes, of course, but he too must suffer through this hell of fish.

(COCA)

a. IL: (+id R₁: [(T₁)(T₂)](R₁))
b. RL: (1x₁: (f₁: hell (f₁): (x₂: (f₂: fish (f₂: (x₂: (f₁): (x₁))))) (g₁)) (x₁))
c. ML: (Np₁: [(Gw₁: this (Gw₁)) (Nw₁: hell (Nw₁)) (Nw₂: of (Nw₂)) (Np₂: (Nw₂: fish (Nw₂)) (Np₂)))](Np₁))
(60) Through what brutal hells of blood-lust, what sordid treacheries of dope and fouls.

This mismatch between the Interpersonal and the Representational Levels has an effect on the premodification patterns. Because the second noun is no longer realized as a Referential Subact, it can no longer be modified by modifiers or operators of the Referential Subact ([61]; also see Section 2.2.2). In (61) true can modify hell in hell of fish in (61a) and fish in a simple NP as in (61b), but not in the head-qualifier as in (61c). However, because fish is encoded as an Individual on the Representational Level, it can take, and this construction is even defined by, modification in both descriptive modifier zones (61d).

(61) Yes, of course, but he too must suffer through this hell of fish.

One reason for the head-qualifier modification to favor the first premodifier zones over the second would be that the category includes some constructions that are more idiomatic than others, e.g. a whale of stone or a book of comics are less idiomatic (i.e. more semantically compositional) than a beast of burden. In the last example, you would be less likely to have premodification in front of the second noun, i.e. a beast of dark prey. All three would be included in the head-qualifier category (the question if there should be a categorical distinction between these constructions is a discussion for another paper; see Ten Wolde 2018).

The loss of the second Referential Subact at the Interpersonal Level is shared by all the constructions that follow and might well explain the absence of degree modification in front of the second noun in all but the N+PP constructions. Furthermore, as this construction grammaticalizes further, the repercussions of this change permeate into the lower levels.
6.3 Evaluative binominal noun phrases

An FDG analysis of the EBNP would look something like Example (62):

\[(62) \quad \text{It was a hell of a night for a meeting – with the storm going and the river about to blow.} \]

(COCA)

\begin{enumerate}
  \item IL: \((\text{id } R_1: [(T_1) (T_2)] (R_1))\)
  \item RL: \((1x_1: (f_1: \text{ night (f_1)}) (x_1): (f_2: \text{ hell (f_2)}) (x_1))\)
  \item ML: \([(Np_1: [(Gw_1: a (Gw_1)) (Nw_1: \text{ hell (Nw_1)}) (Gw_2: \text{ of (Gw_2)}) (Np_2: (Gw_3: a (Gw_3)) (Nw_2: \text{ night (Nw_2)}) (Np_2)]) (Np_1)])\]
\end{enumerate}

In this example, the entity \textit{night} is being metaphorically evaluated; in this case “hellish” properties are being ascribed onto the \textit{night}. In this construction, it is the first noun that no longer has referential value and is therefore represented as an Ascriptive Subact \((T_2)\) on the Interpersonal Level. Therefore, as in the head-qualifier construction, there is only one Referential Subact \((R_1)\) which consists of two Ascriptive Subacts \((T_1\) and \(T_2)\). On the Representational Level, \(R_1\) is realized as an Individual \((x_1)\), headed by the Property \textit{night} \((f_1)\) and modified by the Property \textit{hell} \((f_2)\). Although \textit{hell} can still accept modification, it must agree in number with the second noun and therefore would be encoded as a Property on this level. Therefore, transparency has been reestablished between the Interpersonal and Representational Levels with a Referential Subact \((R_1)\) aligning with an Individual \((x_1)\), and the Ascriptive Subacts \((T_1\) and \(T_2)\) corresponding with the Properties \((f_1\) and \(f_2)\).

The choice of the EBNP template, however, creates a mismatch between the Representational and Morphosyntactic Levels, since \textit{hell}, realized as a noun at the Morphosyntactic Level, fills a slot on the Representational Level that is usually realized by modifiers. The mismatch between the semantic function and syntactic encoding of the first noun may explain the shift of premodification into the first noun premodification zones. The first noun in the EBNP semantically functions as a descriptive modifier (either more objective or subjective depending on the noun and the context, e.g. \textit{a beast of car} for a large car or \textit{a beast of child} for a child that acts in a beastly manner), and therefore, there might be some ambiguity about the placement of subjective and objective modifiers, even those selected by the second noun.

The preposition \textit{of} is still present at the Morphosyntactic Level. Both the indefinite article and the preposition can be regarded as fixed, semantically empty elements in this construction.
6.4 Evaluative modifiers

With the EM, the first noun assumes more subjective properties, and the [N₁ of a] chunk shifts to the Interpersonal Level and, in the syntactic encoding, to the left hand side of the NP premodifier zones. The first noun no longer has semantic content and, therefore, does not appear at the Representational Level. As discussed in Section 4, the evaluative modifier expresses both an extreme degree of a feature defined by context (both the linguistic context and the discourse context); it is, therefore, modeled as a two-part element in FDG. The chunk that is encoded as [N of a] on the Morphosyntactic Level is modeled as a reinforcing modifier\(^{23}\) of an Ascriptive Subact (T) on the Interpersonal Level. This Ascriptive Subact (T) does not denote semantic information so does not correspond with a Property (f) on the Representational Level but is determined by context outside the grammar (see Figure 3). Example (63) represents a possible FDG analysis of the EM.

(63) “Y’ever hear what Kennedy said three hours before he was shot?” he asked, putting on his best Massachusetts accent. “You know, last night would’ve been a hell of a night to kill a President.”

(COCA)

a. IL: \((-id \ R_1: [(T_1) \ (T_2: [\ldots] (T_3: \text{hell} (T_4: \text{night})) \ (R_1))])\)

b. RL: \((1x_1: [(f_1: \text{night})] (x_1))\)

c. ML: \((\text{Np}_1: [(Gw_1: a (Gw_1)) \ (\text{Nw}_1: \text{hell} (\text{Nw}_1)) (\text{Gw}_2: \text{of} (\text{Gw}_2)) (\text{Np}_2: (\text{Gw}_3: a (\text{Gw}_3)) (\text{Nw}_2: \text{night} (\text{Nw}_2)) (\text{Np}_2))] (\text{Np}_1))\)

In Example (63), the property “hell” no longer has semantic content and therefore, no longer appears on the Representational Level (the night is not hellish); it is only realized on the Morphosyntactic Level, and then only in singular form. Kennedy is essentially reinforcing a positive evaluation of the referent (see Section 3.4 for more discussion). Therefore, the Interpersonal Level is similar

\(^{23}\) The EM could actually be classified as a secondary lexical element (see Keizer 2007b). The [N of a] chunk is no longer a prototypical lexeme, nor a prototypical operator, e.g. it accepts limited modification and focus, but no longer takes a plural marker or has semantic content. However, an extended discussion of this distinction would exceed the scope of this paper; see Ten Wolde (2018) for more discussion.
to that of the EBNP except that [hell of a] now acts as a reinforcing modifier of an unspecified property T$_2$. This change then has an effect on the premodification distribution patterns of the construction. Since the chunk [N of a] functions as a speaker-oriented evaluative modifier, it appears to the left in the premodifier zones; this would also explain the absence of premodification in front the first noun. Instead, the construction is defined by the use of the classifier zones in front of the second noun. In the FDG model, this change into an modifier at the Interpersonal Level would entail that the first noun is integrated into the premodification.

6.5 Summary

FDG provides a plausible, testable explanation for the premodification patterns found in the empirical analysis, using tools that already exist in the language model. In the head-qualifier, the irregular premodifier patterns essentially result from a change on the Interpersonal Level that led to a mismatch between the Interpersonal and Representational Levels, which then limited the selection of certain premodifiers, i.e. the second noun cannot be modified by referent modifiers like poor or true. In the EBNP, transparency between these two levels is reestablished, but there is a mismatch between the Representational Level and the encoding on the Morphosyntactic Level, again resulting in a change in the premodification patterns. In this case the mismatch between the function of the first noun as descriptive modifier (and a Property on the Representational Level) and the formal encoding (as noun on the Morphosyntactic Level) may well explain the shift of descriptive modification into the first noun zones and why descriptive modifiers in front of the first noun may be selected by the second noun. In the EM, this mismatch between the Representational and Morphosyntactic Levels is then resolved by the first noun becoming a part of the modifier chunk [N of a] at the Interpersonal Level with the semantic content only defined by context, and thereby, integrating into the premodifier patterns in front of the second noun. Only then, in some cases, is it orthographically

24 This representation would postulate that the descriptive modifier zones in front of the second noun should also be open, which is not shown in the empirical data. The most likely reason for this would then be the similarity in form with the final construction in this grammaticalization path, the binominal intensifier (see Ten Wolde 2018; Trousdale 2012), e.g. a hell of a long day. In this construction [hell of a] functions as an adjective intensifier of a descriptive modifier, and the use of descriptive modifiers in front on the second noun would signal this reading.
reduced to a single lexical item. This would explain the lack of descriptive and classifier premodification in front of the first noun and the absence of premodification modifying the first noun.

This process demonstrates the interplay between external and internal factors in language change. In this case, an external factor, such as speaker intention, changed the message, which then led to a series of mismatches within the language system as language internal pressures, such as transparency, then facilitated further changes. In terms of internal factors, FDG not only distinguishes between modifiers of pragmatic and semantic information but also captures the interplay between the changing roles of the nouns in the different of-binominals, and the effect these changes have on the different constructions’ premodification patterns. Finally, although the noun selector variable did not ultimately turn out to be a strong feature in any of the constructions’ patterns, it is still a phenomenon that requires theoretical explanation because of its felicitous use. FDG can provide a plausible one based on the tools provided by the grammar.

### 7 Conclusion

This study suggests that the historical developments in this of-binominal family did not just randomly take place but followed a specific pattern and adhered to language internal rules. This means that the changing semantics and form of the of-binominal constructions led to changes in the premodification patterns in front of both nouns. Furthermore, this paper presents a comparison of a linear, zone-based approach to premodification with a hierarchical-functional language model. In the end, this study concludes that, in the case of premodification patterns and in particular non-canonical premodification patterns, the former provides a tool to systematically capture patterns in the data but fails to offer an explanation for the findings, i.e. an explanation for why these changes took place. In particular, it cannot offer an explanation as to why the head-qualifier lost its noun intensifier zones or why the EBNP premodifier zones developed so idiosyncratically. FDG can provide this.

Another issue that arose in this study is with the Ghesquière model’s categorization, namely that its lack of a distinction between referent and reference modifiers (e.g. Bolinger 1967; in FDG this is a distinction made between modification of the Referent [R] on the pragmatic level [Interpersonal Level] and modification on the semantic level [Representational Level]). As shown in the study above, this is important in the case of the head-qualifier premodification
patterns. Although the Ghesquière model shows the loss of the N\textsubscript{2} noun intensifier zone in this construction (and all the constructions that follow), the reality is that not only is the noun intensification lost but all modifiers of the second referent because the second noun no longer denotes a referent. This would not only include noun intensifiers but also referent modifiers such as poor as an expression of speaker sympathy. Particularly in the case of poor, it is unclear if this use of the premodifier would be a subjective descriptive modifier or not. It does not seem to fit into the noun intensifier category.

Nevertheless, these two models do not appear to be mutually exclusive, and a possible integration of these two approaches might be fruitful for future analysis. The juxtaposition and to some extent integration of these two approaches in this paper also stimulates questions for future work, such as the question if the subjective and objective descriptive modifier distinction and the semantic ordering made in other models should be incorporated into the FDG model.

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Corpora


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25 This distinction has been partly addressed in more recent work by Ghesquière (e.g. Ghesquière 2017), where she makes a distinction between intensification and focusing, with focusing markers included at the left end of the zones.
26 This is also an issue in other zone-based models such as Feist (2012).


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