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NOUNS IN THE *BE OF N*-CONSTRUCTION: A CORPUS-BASED INVESTIGATION

Abstract. This paper employs a usage-based approach to grammar, the theory of frame semantics, and the corpus-based method referred to as the *attraction-reliance* measure, for the purpose of examining the mutual association between a noun and the *be of N*-pattern: in other words, to determine nouns that are strongly associated with this construction. On the basis of the data gleaned from the Corpus of Contemporary American English (COCA), the paper aims to indicate that there are specific categories of nouns occurring in the construction under scrutiny, and that this construction performs specific functions in discourse.

Keywords: construction grammar, COCA, frame semantics, attraction-reliance method.

1. Introduction

Recently, the increased application of online corpora has provided ideal possibilities for exploring the reciprocal relation between different kinds of grammatical patterns and the words combining with them in naturally-occurring discourse, as indicated by a multitude of studies (e.g. Hilpert, 2014; Kaleta, 2014; Stefanowitsch, 2014; Perek, 2015; Kim & Davies, 2016; Yoon & Wulff, 2016; Wiliński, 2017, 2018, 2020, to mention a few). Perek's (2015) quantitative corpus-based investigation, for example, showed how a corpus-based method can aid in explaining many issues concerning the argument structure of words and providing quantitative descriptions of their usage, whereas Yoon and Wulff's (2016) study examined Spanish infinitive and sentential constructions collocating with various complements and determined the verbs that are strongly attracted to a particular complement. Finally, Wiliński's (2017) study sought to identify minor distributional differences between two near-synonymous grammatical

patterns: in other words, the *on the brink of*-noun construction versus the *on the verge of*-noun construction. The findings of this investigation revealed that both patterns have a strong tendency to collocate with specific sets of nouns.

Thus far, however, little or no emphasis has been placed on both qualitative and quantitative analyses of the *be of N*-construction, the statistical assessment of nouns occurring in this pattern, and the quantitative confirmation of their use in this type of grammatical structure. In addition, to my knowledge, no single investigation has sought to posit the existence of the *be of N*-construction in a constructional cline and to establish semantic and discourse-functional features of this construction. The main purpose of this paper is therefore twofold: firstly, to put forward the arguments for the occurrence of the *be of N*-construction (a combination of form and meaning/function), and secondly, to conduct a qualitative and quantitative study of nouns occurring in this grammatical pattern.

The rest of the paper is arranged in the following way. Section 2 considers the theoretical and methodological assumptions underlying the quantitative corpus-based investigation. Section 3 gives a short explanation of the corpus, the data, and the tools utilized in this study and briefly describes the quantitative procedure followed in the study. Section 4 sketches structural, semantic, and discourse-functional properties of the *be of N*-construction. Section 5 presents and evaluates the findings. Finally, section 6 provides concluding remarks.

2. Theoretical and Methodological Assumptions

The quantitative investigation is based on two assumptions, theoretical and methodological. The theory rests on the usage-based approach to grammar and frame semantics. The usage-based model assumes that linguistic structure and usage are inextricably linked. From this perspective, grammar is perceived as a complex system of symbolic units emerging from their use in particular situations, a system of constructions that is determined by general cognitive processes involved in language production and understanding (cf. Diessel, 2015, 2017). The usage-based perspective results from different studies conducted within the framework of psycholinguistics, functional linguistics and cognitive linguistics (Langacker, 1987; Croft, 2000; Tomasello, 2003; Bybee, 2010; Ruiz de Mendoza & Galera, 2014, to mention a few). The primary aim of this model of grammatical knowledge is to formulate a theoretical basis for the investigation of grammar as it arises

from general cognitive processes such as analogy, categorization, (joint) attention, and automatization (cf. Diessel, 2015, 2017). A basic unit of linguistic analysis in this approach is a construction: a pairing of form and meaning/function (Goldberg, 2006), a meaningful symbolic assembly (Lan-gacker, 1987) used to signal relevant communicative intentions. In order to comprehend the nature of grammatical structure, usage-based linguists (e.g., Diessel, 2015, 2017) investigate language development, assumed to be significantly determined by the use of specific lexical units in particular linguistic contexts, and they additionally acknowledge the significance of frequency information for the study of grammatical structure and its significant effect on the communicative processes and information conveyance (e.g., Arnon & Snider, 2010; Bybee & Hopper, 2001; Bybee, 2010; Goldberg, 2006).

Frame semantics, as formulated by Fillmore and his colleagues (e.g., Fillmore, 1982; Fontenelle, 2003; Fillmore & Baker, 2010), is a theory of lexical semantics according to which meanings of words are structured and determined relative to a background frame or a scene. The term *frame* refers to a structured mental representation of a specific situation type, along with a collection of the frame elements (i.e., the most common participants, props, and roles) that occur in such a situation (Fillmore, 1982). A classic example of a semantic frame is the COMMERCIAL TRANSACTION frame which contains some closely related words such as *John*, *buy*, *the computer*, *Tom*, and *\$100*, as in the sentence *John bought the computer from Tom for \$100*. The meanings of these lexical items can be understood with reference to an abstract scene which involves (at least) the following participants: a buyer, goods, a seller and a price.

In this study, the theory of frame semantics is employed to describe the meanings of nouns occurring in the construction under investigation. Almost all semantic frames and their modified descriptions, apart from the QUALITY frame and the GENDER frame invented by the author, were taken from the FrameNet lexical database (Fillmore, Johnson, & Petruck, 2003; Fillmore & Baker, 2010; <http://framenet.icsi.berkeley.edu>).

The methodological assumption is based on quantitative corpus linguistics. This study adopts the *attraction-reliance method* (Schmid, 2000; Schmid & Küchenhoff, 2013), a corpus-based approach that is deemed particularly suitable for exploring reciprocal associations between a particular construction and lexemes collocating with this construction. The method is used to identify the strength of association between the *be of N*-pattern and nouns occurring in this pattern: in other words, to identify nouns that are strongly associated with the construction under investigation.

The results of such an analysis are evaluated qualitatively. In other words, nouns that are strongly related to the construction in question can be classified according to the semantic frames they invoke on the basis of subjective judgments (cf. Wiliński, 2018).

3. Corpus, Data, Tools, and Statistical Procedure

The data were excerpted from the well-balanced Corpus of Contemporary American English (COCA), a huge collection of texts covering the years between 1990 and 2017. This corpus includes more than 560 million words of text, derived in equal measure from utterances, works of fiction, popular magazines, newspapers, and academic texts (<https://www.english-corpora.org/coca/>). A search engine allowed for the extraction of the raw frequencies of nouns from the corpus. More specifically, the program searched all the texts for the nouns collocating with the verb *be*, i.e. all its forms: *am*, *is*, *are*, *was*, *were*, *be*, *been*, and *being*. To extract all these lemmas, the wildcard (BE of nn*) for each form of the verb *be* (i.e. *am*, *is*, *are*, etc.) was entered separately into the search engine. The retrieval was confined to four places to the right of the search word, i.e. within a set span (four words). Then, each specific use of a noun in the *be of N*-pattern was manually inspected to determine true combinations. All false hits (e.g. the occurrences of the nouns *people*, *president*, or *women* in the combinations *be of something in people*, *is of course president*, or *is of importance to women*) were discarded from further examination, and the raw frequencies of the rest of nouns in the pattern under discussion were estimated manually by reading concordance lines.

After the calculation of the raw frequencies, all the numbers required for the quantification of the strength of the reciprocal relationship between nouns and the pattern were entered into an Excel worksheet and were subjected to Schmid's measures of attraction and reliance (cf. Wiliński, 2020). The former measure can be interpreted as reflecting the Attraction exerted by the *be of N*-pattern on a particular noun, and the latter as reflecting the Reliance of this noun on the pattern under consideration (cf. Schmid & Küchenhoff, 2013: 548). In order to calculate *Attraction*, the observed frequency of occurrence of a noun in the *be of N*-pattern (i.e. in all contexts identified in the corpus) was divided by the total frequency of nouns in the pattern in question. As for *Reliance*, the frequency of a noun in the construction under scrutiny was divided by the frequency of its occurrence in the Corpus of Contemporary American English (cf. Schmid, 2000: 54).

The results of these calculations were converted to percentages by multiplying the observed frequency of a particular noun in the pattern in each case by one hundred (cf. Wiliński, 2018). These statistical tests were performed by means of Microsoft Excel spreadsheets. The percentages obtained from these measures were taken as indexes of a noun’s strength of attraction to, or reliance on, the construction: it can be observed that the higher the percentage is, the stronger the attraction to, and reliance on, the pattern at the center of this investigation (cf. Wiliński, 2018).

The procedure adopted in this quantitative study involved three steps (cf. Wiliński, 2018, 2020).

Table 1

Cooccurrence table for a quantitative study

noun	a	x	e	attraction	reliance
importance	2143	21636	34650	9.90%	6.18%

Note: a = Frequency of noun (e.g. importance) in the be of N-construction; x = Total frequency of all nouns in the pattern; e = Total frequency of noun (e.g. importance) in corpora

The first stage was to estimate the observed frequencies. For the noun *importance* in Table 1, for instance, all uses of this word in the pattern were first extracted from the corpus, yielding 2143. After that, the total frequency of the lexeme (*importance*) in all other patterns in the corpus was identified, yielding 34650. Lastly, the total frequency of all nouns in the construction was computed, amounting to 21636. These three numbers were obtained from the corpus manually by inspecting concordance lines and calculating all the frequencies of occurrence of the nouns under investigation.

The second stage was to estimate the measures of attraction and reliance. For this purpose, the frequencies resulted from the manual inspection of data were entered into an Excel spreadsheet and submitted to these arithmetic tests (cf. Wiliński, 2020). As can be seen in Table 1, the percentages resulting from the computation of attraction and reliance for the noun *importance* are very high: 9.90% and 6.18%, respectively. This means that the noun occurs in 9.90% of the uses of nouns in the pattern: in other words, *importance* is a highly significant, very strongly attracted lexeme of this pattern. In addition, 6.18% of the occurrences of the same term are found in this pattern, which means that *importance* relies on other constructions in a proportion of 6.18%. Finally, the findings were grouped according to the measure of attraction and then evaluated qualitatively and subjectively.

4. The *Be of N*-Construction

A vast mass of empirical data collected from the Corpus of Contemporary American English and a high frequency of occurrence of the verb *be* with the preposition *of* seem to suggest the existence of the *be of N*-pattern, a partially lexically-filled construction (a combination of form and meaning/function) involving one fixed lexical item (the preposition *of*) and at least two flexible slots that can be filled by different forms of the verb *be* and a range of nouns falling into specific semantic categories. The syntactic form of this pattern can be represented structurally and schematically in the form of [*Subject of N*], where an animate or inanimate subject is followed by the verb *be*, the preposition *of*, and a variety of noun phrases.

Alternatively, the *be of N*-construction can also be treated as one of the instances of the general copular construction, from which it inherits some crucial semantic and functional properties. The copular structure includes a subject, a copular verb (*be*, *become*, *seem*, *look*, and many others), and a complement, which can be a predicative adjective (*be lazy*), a predicate nominal (*be a friend*), or a prepositional phrase (*be out of control*) (see Radden and Dirven, 2007: 273–274; Bierwiaczonek, 2016: chapter 3, for a more elaborate discussion of this construction). As in the case of the copular construction, the complement of the *be of N*-construction fulfils the role of an attribute: that is, it ascribes an identification or characterization to the subject and is used for mentioning a quality that this subject possesses.

In addition, the preposition *of* also seems to contribute to the semantics of the construction under study, as some of the semantic properties and constraints of this construction are obviously inherited from the properties of the *of-NP* construction itself (see Taylor, 2000, for a discussion of possessive constructions). For example, the meaning associated with ‘coming from a particular background or living in a place’, as in *immigrants of European descent*, can also be conveyed by the *be of N*-construction, as in (2). Likewise, the meaning pertaining to ‘belonging to, or relating to somebody’, as in *the picture of a naked woman*, can also be expressed by the pattern under investigation here (see illustrative examples 42, 43, and 44 below). Hence, the *be of N*-construction appears to be doubly motivated: by the general copular construction and the *of-NP* construction.

Finally, the nature of the construction under scrutiny can also be captured by several different lower-level generalizations that each impose constraints of their own. For example, nouns such as *interest*, *relevance* or *importance* can be used as bare nouns and followed by to-infinitives or that-clauses (as in *It is of interest that he has mentioned the name/ It is of*

interest to compare these results in more detail; in *It is of importance to mention this issue/ It is of importance that we consider this issue*; or in *It is of relevance to consider this question/ It is of relevance that all these attempts failed*), thus being the realizations of the sub-patterns: *be of bare-N to-INF* or *be of bare-N that-clause*. By contrast, nouns such as *quality*, *help* or *benefit* seem to be followed only by to-infinitives (as in *It should be of quality to contribute to the students’ personal development*; in *It may be of help to consider information and practices*; or in *It may be of benefit to create a scenario that includes varying team responses*), which may result from the constraints governed by the patterns, rather than by the noun’s valency. Another sub-pattern would be *be of INDEF N to NP* instantiated by the following examples: *This act was of significance to few communities*; *I am glad I could be of use to your aunt*; *This has been of assistance to those employees*. Note that nouns such as *significance*, *use*, or *assistance* cannot be used with definite articles, which means that there is a constraint that is imposed by this sub-pattern below the level of the more general construction.

The use of the *be of N*-construction can be illustrated by the following sentences taken from the corpus:

- (1) *The current juncture is of major importance to the entire Arab region.*
(MAG: Huffington Post)
- (2) *But most of its immigrants were of European descent, and many spoke English.* (NEWS: San Francisco Chronicle)
- (3) *This finding could be of use in clinical settings.* (ACAD: Journal of Speech, Language & Hearing Research)
- (4) *I am of a mind that the ultimate downfall of restaurants will be computer systems.* (NEWS: Chicago Sun-Times)
- (5) *It is of concern that most obese children remain obese over time.*
(ACAD: Physical Educator)

As for semantic and discourse-functional properties of the *be of N*-pattern, sentences such as those mentioned above seem to serve at least two primary functions (see Erdmann, 1990; Collins, 1994; Wiliński, 2018, for a similar classification of discourse-functional properties). Firstly, they are commonly used for expressing a speaker’s/writer’s evaluative judgment about the significance, origin, or usefulness, of a certain entity, fact, or state of affairs, or for expressing subjective opinions and beliefs about some facts or state of affairs by presenting them as if they were a speaker’s personal

judgement. This function enables speakers and writers to express novel ideas and views in spoken and written discourse, new pieces of information that are tied to the preceding context or are not closely related to the previous pieces of writing. These novel ideas are introduced by the complement clause placed in the sentence final position, as in (4).

Secondly, in accordance with the principles of end-weight and end-focus (Erdmann, 1990: 137; Collins, 1994: 16–17), the use of this construction can be motivated in part by a desire to avoid long and heavy subject clauses by introducing them in the sentence final position, hence allowing for easier processing of new pieces of information in both speech and writing, as can be observed in (5).

These semantic and discourse-functional properties can be partly motivated by the nouns occurring in the pattern under study. In other words, the meaning of each noun is likely to influence the constructional meaning and the discourse function of the construction in question. Thus, the findings of the quantitative study of the nouns and their frame-semantic analysis may enable us to ascertain minor distributional differences in their use, to apprehend their role within the investigated pattern, and to identify semantic and discourse-functional properties of the construction.

5. Results and Discussion

The data collected from the corpus contained 1911 types of nouns, out of which 1051 occurred only once in the construction under scrutiny. However, this section will only discuss findings for lexemes that are most strongly associated with the pattern, because of the limitation of space. Table 2 and Table 3 below display the findings of the measures of attraction and reliance for the 60 most strongly attracted words of the construction.

As Table 2 shows, the frequencies are arranged according to the measure of attraction. The top of the list contains fairly frequent nouns, such as *importance*, *interest*, *concern*, or *value*. The most rational justification for this is that overall, the total frequency of these nouns in COCA tends to have a powerful influence upon the probability of their occurrence in the *be of N*-pattern. For example, *importance* (Attraction score 9.90%) and *interest* (Attraction score 9.84%) achieved much higher numbers for attraction than *magnitude* (Attraction score 0.48%) and *generation* (Attraction score 0.49%), largely because of their higher frequency in the pattern in question, as can be observed in Table 2. The arrangement of reliance scores, by contrast, contains much higher figures for less frequent nouns used in

Table 2

The results of attraction and reliance for the 30 most strongly attracted nouns

rank	noun	a	x	e	attraction	reliance
1.	importance	2143	21636	34650	9.90%	6.18%
2.	interest	2129	21636	91130	9.84%	2.34%
3.	concern	1173	21636	44271	5.42%	2.65%
4.	value	1004	21636	65651	4.64%	1.53%
5.	use	964	21636	130427	4.46%	0.74%
6.	quality	559	21636	64436	2.58%	0.87%
7.	help	515	21636	57322	2.38%	0.90%
8.	significance	371	21636	15631	1.71%	2.37%
9.	age	362	21636	128593	1.67%	0.28%
10.	origin	343	21636	11219	1.59%	3.06%
11.	benefit	338	21636	20905	1.56%	1.62%
12.	opinion	296	21636	35652	1.37%	0.83%
13.	nature	295	21636	78045	1.36%	0.38%
14.	descent	291	21636	5429	1.34%	5.36%
15.	essence	286	21636	11427	1.32%	2.50%
16.	consequence	276	21636	8612	1.28%	3.20%
17.	service	266	21636	115276	1.23%	0.23%
18.	assistance	232	21636	23610	1.07%	0.98%
19.	mind	223	21636	98320	1.03%	0.23%
20.	size	182	21636	62791	0.84%	0.29%
21.	order	153	21636	61271	0.71%	0.25%
22.	relevance	147	21636	4986	0.68%	2.95%
23.	type	145	21636	62565	0.67%	0.23%
24.	kind	143	21636	181969	0.66%	0.08%
25.	variety	126	21636	39524	0.58%	0.32%
26.	people	124	21636	976115	0.57%	0.01%
27.	piece	114	21636	58565	0.53%	0.19%
28.	race	109	21636	67370	0.50%	0.16%
29.	generation	105	21636	37561	0.49%	0.28%
30.	magnitude	104	21636	9895	0.48%	1.05%

Table 3

**The results of attraction and reliance for the next 30 most strongly
attracted nouns**

rank	noun	a	x	e	attraction	reliance
31.	height	93	21636	16629	0.43%	0.56%
32.	sort	80	21636	56308	0.37%	0.14%
33.	duration	76	21636	7231	0.35%	1.05%
34.	minds	76	21636	16296	0.35%	0.47%
35.	man	75	21636	369954	0.35%	0.02%
36.	character	68	21636	47927	0.31%	0.14%
37.	heritage	66	21636	13366	0.31%	0.49%
38.	woman	60	21636	197961	0.28%	0.03%
39.	blood	59	21636	80014	0.27%	0.07%
40.	import	58	21636	3004	0.27%	1.93%
41.	status	57	21636	48318	0.26%	0.12%
42.	color	56	21636	92851	0.26%	0.06%
43.	types	56	21636	36453	0.26%	0.15%
44.	priority	54	21636	14729	0.25%	0.37%
45.	necessity	53	21636	7902	0.24%	0.67%
46.	view	52	21636	84519	0.24%	0.06%
47.	moment	51	21636	129738	0.24%	0.04%
48.	ancestry	49	21636	1833	0.23%	2.67%
49.	school	48	21636	356349	0.22%	0.01%
50.	worth	48	21636	15255	0.22%	0.31%
51.	comfort	48	21636	14260	0.22%	0.34%
52.	degree	46	21636	45306	0.21%	0.10%
53.	length	43	21636	23525	0.20%	0.18%
54.	making	42	21636	6438	0.19%	0.65%
55.	family	40	21636	271641	0.18%	0.01%
56.	sex	40	21636	62937	0.18%	0.06%
57.	species	39	21636	51410	0.18%	0.08%
58.	stock	39	21636	48131	0.18%	0.08%
59.	form	38	21636	71693	0.18%	0.05%
60.	class	38	21636	98482	0.18%	0.04%

the construction, such as *origin* (Reliance score 3.06%), *descent* (Reliance score 5.36%), and *consequence* (Reliance score 3.20%), since the measure of reliance is calculated by taking the total frequency of each noun in the corpus into consideration.

5.1. The Most Significant Groups of Nouns Occurring in the Construction

5.1.1. Nouns Denoting Importance

The first group of the most significant lexemes of the *be of N*-pattern includes nouns reflecting the IMPORTANCE frame, a semantic frame in which the importance of a certain factor, which can be a concrete or abstract entity, is assessed by a judge, i.e. a speaker, as in (6) and (7):

(6) [*The match*]_{FACTOR} *itself was of little consequence.* (MAG: American Heritage)

(7) [*The final element*]_{FACTOR} *was of no small moment to Rabbi Rivkind.* (ACAD: Journal of American Ethnic History)

The noun *importance*, its main collexeme in rank 1, is followed by *significance*, *essence*, *consequence*, *import*, *priority*, *moment*, and *worth* in ranks 8, 15, 16, 40, 44, 47, and 50. The results of attraction and reliance indicate that the noun *importance* amounts to 9.90% of the occurrences of the *be of N*-construction in COCA, and that 6.18% of occurrences of the same noun can be found in that specific construction. Hence, the lexeme is strongly associated with the construction in a proportion of 9.90%, and it depends on the pattern in a proportion of 6.18%, thereby being the most important noun for the pattern. By comparison, the noun *worth* is a much less relevant slot filler for the pattern (Attraction score 0.22%) and hinges on this pattern to a lesser degree (Reliance score 0.31%).

The noun *magnitude*, ranked number 30, seems to be motivated by the same semantic frame and also via the ontological metaphor: ABSTRACT ENTITIES (PROBLEMS, FEELINGS, ETC.) ARE PHYSICAL THINGS (OBJECTS), as observed in (8). However, apart from the IMPORTANCE frame, the meaning of this lexeme can be interpreted with reference to at least two other semantic frames (OBJECTIVE INFLUENCE and SIZE). The former pertains to a situation affecting a dependent entity, situation, or variable, as in (9). The SIZE frame appears to be evoked by *magnitude* and its collocates in the following sentence: *Outside our atmosphere, [the average full Moon]_{ENTITY} is of [stellar magnitude, 12.74]_{SIZE}* (ACAD: MERCURY). In this frame the size of an entity is evaluated with respect to the degree by which it deviates from the

norm. This frame is also activated by the lexeme *size*, ranked number 20, as in (10).

- (8) *I do not think [the problem]_{FACTOR} is of such a magnitude that we ought to tamper with the First Amendment.* (SPOK: PBS_Newshour)
- (9) *But I think [the sadness that was experienced here in Dallas]_{INFLUENCING SITUATION} was of such great magnitude that it's almost hard to describe it.* (NEWS: Associated Press)
- (10) *[The lamp]_{ENTITY} was of [a size he had never imagined]_{SIZE}.* (FIC: Fantasy & Science Fiction)

5.1.2. Nouns Concerning an Origin or Cultural Background

The second set in the ranking list consists of a range of nouns denoting an ethnic origin or a cultural background. *Origin* (Attraction score 1.59%), its main noun in rank 9, is followed by *descent*, *heritage*, *blood*, *ancestry*, and *stock* in ranks 14, 37, 39, 48, and 58, respectively. This category of nouns can be defined relative to the ORIGIN frame, in which the existence of an entity in the context of an origin (a place, culture, time period, text, etc.) is assessed by a speaker, as in (11), (12), and (13). In the last example *blood* is used metonymically to stand for ancestry.

- (11) *[He]_{ENTITY} was of old Norwegian-American stock.* (FIC: Ploughshares)
- (12) *[Selin]_{ENTITY} is of Turkish ancestry and African birth.* (FIC: The Martian general's daughter)
- (13) *[My family]_{ENTITY} was of mixed blood.* (FIC: Ploughshares)

5.1.3. Nouns Pertaining to a Type of a General Category

The third category comprises *order*, *type*, *kind*, *variety*, *race*, *sort*, *types*, *form* and *class* in ranks 21, 23, 24, 25, 28, 32, 43, 59, and 60, whose meaning can be understood with reference to the TYPE frame. The frame describes an entity denoting a subtype of a more general category. The subtype refers to a collection of members which possess certain defining properties. Alternatively, it may apply to the type itself, i.e. a more restrictive set of properties than those of the more general category. This frame is evoked by means of the nouns *order* and *class* in (14) and (15):

- (14) *Much of the crime in our day is [of the same order]_{SUBTYPE}, down to formal execution.* (ACAD: American Scholar)
- (15) *Some writers are essentially builders, others architects; Montaigne is [of the first class]_{SUBTYPE}.* (ACAD: American Scholar)

The most significant lexeme of this set is *order*, associated with the construction in a proportion of 0.71% and relying on the pattern in a proportion of 0.25%. By contrast, the noun *class* is a much less important lexeme of the pattern (Attraction score 0.18%) and relies on the pattern to a lesser extent (Reliance score 0.04%). Apart from the TYPE frame, *order* and *class* seem to invoke other frames. The meanings of *order*, for example, can be relativized to the SIZE frame, mentioned above, as can be observed in (16), whereas the meaning of *class* can be interpreted relative to the AGGREGATE frame, a frame containing nouns denoting aggregates of individuals, i.e. the collection of entities, as in (17).

- (16) *The line length is comparable to [the signal wavelength, lambda]_{ENTITY}, which is of [the order of 0.8 to 2.5 cm]_{SIZE}* (ACAD: IBM Journal of Research & Development)
- (17) *[The man, Itti]_{INDIVIDUALS} was [of the warrior class]_{AGGREGATE}, garbed in red, and surely prominent.* (FIC: Shame of Man)

5.1.4. Nouns Meaning Assistance

The fourth set of the most strongly attracted nouns consists of nouns pertaining to help, thereby instantiating the ASSISTANCE frame, an abstract scene in which a benefited party receives a certain benefit from the action of a helper, as in (18) and (19). *Help* in rank 7, the most significant lexeme of this set, is followed by *service* and *assistance* in ranks 17 and 18. The results of attraction and reliance indicate that *help* represents 2.38% of the occurrences of all nouns in the *be of N*-construction, and that 0.90% of occurrences of the same noun are found in this construction. Thus, the word is thus related to the pattern in a proportion of 2.38%, and depends on the pattern in a proportion of 0.90%. The nouns *service* and *assistance* are much less important lexemes of the pattern (Attraction scores 1.23% and 1.07%). However, *assistance* hinges on the construction to a larger extent (Reliance score 0.98%).

- (18) *How may [I]_{HELPER} be of service to [you]_{BENEFITED PARTY}?* (FIC: Farriers' Lane)
- (19) *[We]_{HELPER} can try to be of assistance here.* (SPOK: PBS NEW-SHOUR)

5.1.5. Nouns Expressing an Opinion

The fifth group is constituted by nouns invoking the OPINION frame. In this frame a cognizer expresses a particular opinion about a spe-

cific topic, which may be portrayed as being dependent upon the cognizer's point of view, as in (20) and (21) below. *Opinion*, ranked number 12, is accompanied by *mind* and *view* in ranks 19 and 31. This lexeme obtained a higher score for attraction (1.37%) than *mind* (Attraction score 1.03%) and *view* (Attraction score 0.24%), since it occurred more frequently in the pattern under study. *View* and *mind* achieved lower scores for reliance (0.06% and 0.23% respectively) than *opinion* (0.83%), as they were used more frequently in other patterns (84519 and 98320 occurrences).

(20) [*Bodvarr*]_{COGNIZER} is of the opinion that this is his only royal fault. (ACAD: Scandinavian Studies)

(21) [*Hume*]_{COGNIZER} was of the view that the passions are the basis for all moral thought. (ACAD: Boston College Environmental Affairs Law Review)

5.1.6. Nouns related to Usefulness and Self-directed Emotions

The top of the ranking list is also dominated by nouns whose meanings can be described relative to the EMOTION_DIRECTED frame and the USEFULNESS frame. The first frame is invoked by *interest* and *concern*, ranked second and third, while the latter by *value* and *use*, ranked fourth and fifth. *Interest* in the EMOTION_DIRECTED frame, for example, describes a person who experiences or feels a certain emotional response to a stimulus (see <https://framenet.icsi.berkeley.edu/fndrupal/>), i.e. a person, event, or state of affairs that provokes the emotional response, as in (22). *Value* in the USEFULNESS frame, in turn, characterizes entities that are useful for a particular purpose, as in (23). *Interest* holds the most important position among the nouns belonging to these two categories, associated with the pattern in a proportion of 9.84% but dependent upon this construction in a proportion of 2.34%, which means that the noun occurs more commonly (in a proportion of 97.66%) in other patterns. By contrast, *value* and *use* are much less important nouns of the construction (Attraction scores 4.64% and 4.46%) and also are dependent upon the construction to a small degree (Reliance scores 1.53% and 0.74%).

(22) [*This phenomenon*]_{STIMULUS} was of specific interest to the researchers. (ACAD: American Secondary Education)

(23) [*Oats*]_{ENTITY} may be of value where there is any damage to the tissue of the brain. (MAG: Total Health)

5.2. Other Nouns Strongly Attracted to the Construction

5.2.1. Nouns Pertaining to a Quality, Age, Benefit and Nature

In addition, the top of the table contains nouns such as *quality*, *age*, *benefit*, and *nature*. *Quality* (Attraction score 2.58%) is more strongly associated with the construction than the lexemes mentioned above and depends on this pattern to a greater extent (Reliance score 0.87%) than *age* (Reliance score 0.28%) and *nature* (Reliance score 0.38%). *Quality* and *nature*, ranked number 6 and 13, reflect the QUALITY EVALUATION frame. In this frame an evaluatee, i.e. a person, thing, or situation, is being judged with respect to its quality, as in (24). In such examples, the evaluatee is usually assessed relative to a set of circumstances or a set of entities that belong to the same class as the evaluatee. *Character* in rank 36 also instantiates this frame, as in (25).

(24) *My problem with [the fluorescent light bulbs]_{EVALUEE} is that they tend to be of low quality.* (SPOK: NPR_Science)

(25) *Linta adds that [a young man]_{EVALUEE} can be of good character without going to church.* (NEWS: Denver Post)

Age in rank 9, similar to *generation* (in rank 29), activates the AGE frame. In this frame the age of an entity, i.e. its existence for a particular length of time, is assessed by the speaker, as in (26). *Benefit*, ranked number 11, can be relativized to the CAUSE BENEFIT OR DETRIMENT frame, a scene in which a beneficial situation brings an advantage to a benefitted situation or a beneficiary (a person or thing affected by the benefitted situation), as in (27).

(26) *[They]_{ENTITY} appear all to be of middle school age and in [MacKellar]_{ENTITY} was of a younger generation.* (SPOK: CNN_Live-Today)

(27) *[Our research]_{BENEFICIAL SITUATION} is of direct benefit to [state and federal regulatory agencies]_{BENEFICIARY}.* (ACAD: Agricultural Research)

5.2.2. Nouns connected with People

Another group of words that are strongly associated with the pattern under investigation is constituted by nouns such as *people*, *man*, and *woman*. These lexemes, referring to humans, serve as points of access to the PEOPLE frame, a mental representation containing general words referring to persons, i.e. humans, who can be characterized in terms of their age, origin, personality trait, ethnicity, or physical and mental conditions, as in (28)

and (29) below. *People*, ranked number 26, is the most important word which is assigned to this category (Attraction score 0.57%). It is followed by *man* and *woman* in ranks 35, and 38, respectively. It is noteworthy that *people* depends on the *be of N*-construction to the lowest degree (Reliance score 0.01%) in comparison with other words in the ranking list, which means that this noun is used more regularly in other grammatical patterns.

- (28) *The picture is of [a naked woman]_{PERSON} standing in the stork pose, a yoga posture.* (ACAD: ReVision)
- (29) *A last image is of [the little man]_{PERSON} alone in his uptown apartment.* (NEWS: Washington Post)

5.2.3. Nouns Designating Ranks and Dimensions

Besides the lexemes instantiating the PEOPLE frame, we can also find nouns denoting a rank or level within an established hierarchy, hence evoking the RANK frame, and nouns expressing an object's place on a scale (its measurement) with reference to some attribute (its dimension), thus reflecting the DIMENSION frame (see <https://framenet.icsi.berkeley.edu/fndrupal/>). Concerning the level of an item (an entity holding a particular rank) within a particular hierarchy, the first frame seems to be instantiated by *status* and *degree* in ranks 41 and 52, as in (30) and (31). The latter in turn is invoked by *height* and *length*, as in (32) and (33).

- (30) *From the official's perspective, [a coach]_{ITEM} is of [higher status]_{RANK} than a player.* (ACAD: Journal of Sport Behavior)
- (31) *[The former proposition]_{ITEM} surely is of [a lower degree]_{RANK} of complexity than the latter.* (ACAD: Journal of the History of Philosophy)
- (32) *[It]_{OBJECT} was of [similar length]_{DIMENSION} [(45 yards)]_{MEASUREMENT}* (NEWS: USA TODAY)
- (33) *[Michael]_{OBJECT} is of [medium height]_{DIMENSION} and well built.* (MAG: Ms.)

5.2.4. Nouns Associated with Relevance, Compatibility, Duration, or Uncertainty

Among the most important nouns in the list, we can also find lexical units referring to the BEING RELEVANT frame, the COMPATIBILITY frame, the DURATION DESCRIPTION, and the UNCERTAINTY frame. The former, evoked by *relevance* in rank 22, describes a certain phenomenon being related

to some endeavor, i.e. a cognitive action (e.g. a discussion or a decision) performed by a cognizer, as in (34). The second, invoked by *piece* in rank 27, provides the background information about certain items being compatible with each other as long as they can exist or function together in some context without problems, conflict, or other undesirable situation, as in (35). The third, activated by *duration* in rank 33, concerns an eventuality, i.e. a situation, action or event whose duration is being described, as in (36).

The last, instantiated by *minds* in rank 34, is related to a cognizer’s uncertainty whether beliefs or expectations are correct or wrong, as in (37). The topic is the entity that the cognizer has an uncertain belief about. In this sentence the expression *two minds* seems to be based on two underlying concepts: the metonymy WHOLE FOR ITS PARTS, where the mind is used metonymically to stand for conflicting emotions and thoughts, and the metaphor MIND IS A CONTAINER, where the mind is considered to be a container for emotions, thoughts, and beliefs, owned by the self (Lakoff 1996). This example can also rest on the metaphoric conceptualization of the experience of having many different, often opposite or contradictory thoughts at roughly the same time.

(34) [*This aspect of cultural insulation*]_{PHENOMENON} *in particular is of relevance to* [*our analysis*]_{ENDEAVOR} (ACAD: American Studies International)

(35) [*The statements/sculptures*]_{ITEM1} *are of a piece with* [*the drawings*]_{ITEM2}. (ACAD: October)

(36) *In the winter, [runs of extremely cold weather]_{EVENTUALITY} are of short duration, lasting only a few days.* (ACAD: Water Engineering & Management)

(37) *But, he adds, [the US public]_{COGNIZER} is of two minds on [the topic]_{TOPIC}.* (NEWS: Christian Science Monitor)

5.2.5. Nouns Pertaining to Color, Necessity, an Institution, or Comfort

The next set of words, occupying ranks 42, 45, 49, and 51, comprises nouns providing mental access to four different semantic frames: COLOR (*color*), BEING NECESSARY (*necessity*), INSTITUTION (*school*), and EXPERIENCER FOCUSED EMOTION (*comfort*). In the first frame the property of some entity is characterized with respect to a particular color, i.e. a position in color-space, as in (38). In the second frame a certain situation or state

depends on the presence of a requirement that is “a prerequisite for obtaining or occurring” (Wiliński, 2018), as in (39). In the third frame institutions, permanent organizations with some definite structure and members, intended to influence the lives of the public at large in a particular domain are described, as in (40). In the last frame an experiencer’s emotions are conceptualized with respect to some content, i.e. a current state of affairs, or a general situation, which causes the emotion, as in (41).

- (38) [*The brick itself*]_{ENTITY} *is of* [*an indeterminate color*]_{COLOR}. (MAG: Newsweek Global)
- (39) [*A revived Anglo-American alliance*]_{DEPENDENT STATE} *would be of necessity concentrated on common vital interests in Europe*. (ACAD: World Affairs)
- (40) [*Tim*]_{MEMBER} *is of* [*the show-no-chrome school of business*]_{INSTITUTION}. (NEWS: USA Today)
- (41) *Severson hopes that* [*her example*]_{CONTENT} *can be of comfort* [*to others*]_{EXPERIENCER} (MAG: U.S. Catholic)

5.2.6. Nouns concerning Causation, Kingship, Classification, and Gender

Lastly, the bottom of the ranking list comprises nouns activating the following frames: CAUSATION (*one’s own making*), KINGSHIP (*family*), BIOLOGICAL CLASSIFICATION (*species*), and GENDER (*sex*). In the first frame an effect is caused by a certain cause (one’s own actions, mistakes or poor decisions), as in (42). Alternatively, an actor, an entity that participates in a (implicit) cause, may be mentioned. The second frame consists of words denoting kingship relationships. In this frame the terms *alter* and *ego* are used to discuss such relationships. Alter is a person or a group of closely related people to whom ego stands in some kingship relationship, while ego is a person from whose perspective the kinship relationship is defined, as in (43).

- (42) *I think* [*she*]_{ACTOR} *’s got* [*problems*]_{EFFECT} *that are of* [*her own making*]_{CAUSE}. (MAG: Jezebel)
- (43) *Is she* [*the daughter of Alice*]_{EGO}, *who is of* [*the Lee family of Virginia?*]_{ALTER}. (FIC: MillersCrossing)

The third frame contains lexical units referring to scientific classifications in which living organisms (members) are grouped according to a rank, i.e. a taxonomic category to which each member belongs, based on common

biological properties, as in (44). The last frame has to do with a biological classification in which human beings, animals, or plants are grouped according to their sex based on specific features or qualities that make a living organism either male or female, as in (45).

(44) [*The pets*]_{MEMBER} *in question are of* [*different species*]_{RANK}. (MAG: Country Living)

(45) *In most of Chedid’s novels, [the closest friends]_{HUMAN BEING} *are of* [*the same sex*]_{SEX}. (ACAD: Symposium)*

6. Concluding Remarks

The findings of this study have revealed that many nouns are strongly associated with the pattern under study and that frame-semantic knowledge related to these nouns and different sentence components used with them prove to be the most relevant factors contributing to the meaning of this pattern. For example, as observed in section 5, the nouns *importance*, *concern*, *use*, *quality*, *help*, *benefit*, or *descent* directly influence the comprehension of the illustrative sentences by assigning the meanings of importance, concern, usefulness, quality, assistance, benefit, or origin to these specific realizations of the *be of N*-construction.

The most important finding of this investigation points to the occurrence of several semantic categories of nouns that form strong associations with the *be of N*-construction. In other words, it was ascertained that nouns invoking various semantic frames, such as IMPORTANCE (e.g. *importance* and *significance*), ORIGIN (e.g. *origin* and *descent*), TYPE (e.g. *type* and *kind*), ASSISTANCE (e.g. *help* and *assistance*), OPINION (e.g. *opinion* and *view*), QUALITY EVALUATION (e.g. *quality* and *nature*), PEOPLE (e.g. *man* and *woman*), EMOTION-DIRECTED (*interest* and *concern*), USEFULNESS (*value* and *use*), AGE (*age* and *generation*), RANK (*status* and *degree*), DIMENSION (*height* and *length*), and BIOLOGICAL CLASSIFICATION (*species*) belong to the collection of the most important lexical items determining the meaning and function of the construction.

The occurrence of these nouns strongly related to the *be of N*-construction supports the claim that the pattern in question is primarily a functional-semantic construction that exhibits a definite preference for nouns expressing a speaker’s/writer’s evaluative judgment about the importance, origin, type, quality, usefulness, benefit, relevance, or necessity, of a certain entity, fact, statement, or state of affairs. These nouns

are strongly associated with this pattern primarily due to semantic and discourse-functional features of the construction, although their frequencies may in time also enhance, contribute or reinforce those properties.

The illustrative examples, provided in section 5, seem to suggest two primary and integrally related functions of this kind of construction in the English language (see Collins, 1994; Erdmann, 1990; Wiliński, 2018, for a similar description of functional properties of different types of constructions). Firstly, a language user seeks to express his/her subjective judgement about some entities, facts, or states of affairs by stating the evaluative opinions in the form of the subject, the verb form *be*, and nouns such as *importance*, *relevance*, *concern*, *opinion*, *view*, *use*, *assistance*, or *quality* at the beginning, or the end of a sentence, as can be observed in (19), (20), (24), or (34). Secondly, a language user intends to introduce novel ideas into spoken or written discourse, new facts or states of affairs that are connected with the previous context or is not directly tied to the previous context. This novel information is conveyed at the end of a sentence, as in (4) or (20).

After a brief interpretation of the results, it can be concluded that the quantitative technique applied in this investigation appeared to be an effective method for uncovering frequent occurrences of nouns in the *be of N*-construction, and thus it can be successfully employed for investigating nouns in other kinds of grammatical patterns. Future research might, for example, concentrate on comparing and contrasting nouns occurring in the *N of N*-construction (as in *the issue of primary importance is*) and the *be of N*-construction (as in *the issue is of primary importance*). Such a quantitative study would ascertain minor distributional variations in the use of nouns in both constructions, and it could allow us explain the existence and degree of semantic differences between the two patterns. In addition, considering the limitation of the present investigation to COCA and the potential existence of subtle differences in the use of nouns in the *be of N*-construction, it is recommended that future research explore the occurrence of nouns in the British National Corpus across various kinds of both written and spoken discourse.

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