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NONCE AND NEOLOGICAL CONSTRUCTIONS IN ALTERED CARBON: A QUANTITATIVE CORPUS ANALYSIS

SOFIJA STEFANOVIĆ

University of Belgrade

Abstract: This paper presents quantitative data identified in the novel Altered Carbon by Richard K. Morgan and its two sequels: after finding 846 morphological and semantic occasionalisms in the pilot, all three novels were loaded into the corpus linguistics programme LancsBox, and a search was performed for those gathered nonce/neological constructions. The achieved goal was to provide answers about the creativity/productivity of these constructions, and the status of occasionalisms in the Altered Carbon dialect, with an insight into their frequency, meaningful interaction, and collocation networks. It was proven that higher-occurring constructions from the pilot were more productive, and that semantic occasionalisms slightly prevailed over morphological.

Keywords: Altered Carbon, construction grammar, corpus linguistics, creativity/ productivity, nonce and neological formations, quantitative analysis

1. Introduction

Nonce-formations have been present in the English language for a long time, and have been regarded as a topic of interest from as early as nineteenth century and Lewis Carroll's literature, not just because of their opaque, context-dependent meaning, but also their form: "Nonce-formations have attracted great attention from scholars and linguists because of their deviant form and the non-existence of attested morphemes in their structure." (Rabrenović 2020: 153).

They can be defined as occasional constructions made for a particular purpose within a speech act whenever there is a lack of appropriate terms (or the speaker is unaware of them), which is why they are sometimes referred to as occasionalisms. Crystal defined them more precisely:

Nonce-formations are items spontaneously coined by a speaker or writer to meet the immediate needs of a particular communicative situation. The OED definition stresses the transient, pragmatic nature of the phenomenon: nonce-words are used 'for the time being, temporarily.'[...] The items are deliberate coinages on the part of the user (thereby excluding from the term such phenomena as malapropisms, spoonerisms, copyist errors, and slips of the tongue). They may be used several times within a single speech event, but there is no expectation that they will be carried over into other discourses. (2000: 219)

Depending on their structure, nonce-formations can be divided into traditional, morphological ones (whose meaning is either completely opaque, or which comprise constituents that have never been found next to each other before), and semantic ones (whose form is not entirely newly-coined, but whose meaning differs from their meaning when used outside of that particular speech act). In either case, the listeners or readers need context in order to accurately understand them: "As for their meaning, they are easily interpreted once we are familiar with the (extra-) linguistic context." (Vujić, Rabrenović 2019: 574).

This study is a quantitative part of a PhD thesis examining how nonceformations in English reflect the development of technology based on linguistic analyses of science fiction – in this specific case, the novel *Altered Carbon* and its sequels. Science fiction was chosen because of the genre's need of new coinages for technology which is ahead of our time, thereby representing fertile grounds for nonce-formations: "Lexical isolates are much more common, especially in certain genres, than the traditional accounts of hapax legomena and nonce-formations in literature would lead us to expect." (Crystal 2000: 228).

The aim of this piece of research is to primarily identify both nonce and neological constructions in the novel: "Neologisms are defined by OED as 'a new word or expression; innovation in language': the implication is that a word has passed beyond the stage of idiosyncrasy, and has settled down to become a recognised part of the lexicon, though still felt to be a 'new arrival'." (Crystal 2000: 219). The criteria for the division between nonce and neological formations shall be further explained in the next section.

Secondly, the goal is to acquire data about the constructions' linguistic potential: the collocation networks that they establish, their meaningful interactions, frequency and the number of occurrences in both the pilot novel and its sequels, thereby indicating not only their creativity, but also their productivity: "A last issue in relation to nonce-formations is the difference between productivity and creativity." (Dal, Namer 2018: 223). The quantification of both aforementioned morphological and semantic constructions is indicative of their creativity, while their repetition in the later novels points to their productivity: "Although 'productivity' and 'creativity' are synonyms for some authors, we can take the *creative* in *creativity* literally, and use this term to refer to the less automatic creations, those which are clearly deliberate and independent of the system." (Bauer 2005: 329).

The expected findings included firstly that a similar number of tokens would be found in *Altered Carbon* and its two sequels, *Broken Angels* and *Woken Furies*. Secondly, that, on the spectrum between occasionalisms and neologisms, the former would prevail. Thirdly, the creative processes of forming traditional versus semantic nonce-formations will be proven to have taken place in a similar quantity, with a slight prevalence of semantic occasionalisms. Finally, higher-frequency words with larger, statistically significant collocation networks will prove to be more productive and used more frequently in the sequels in comparison to hapax legomena from the pilot novel:

Hapax legomena are items recorded only once in a given corpus, such as an author's work, a literary genre, or even a literature as a whole. [...] a hapax found in a corpus is a regular part of the lexicon (which just happened never to have been recorded

elsewhere), a neologism (which did not have a chance to be recorded elsewhere), a nonce-usage (where there was no intention on the author's part of using it again elsewhere), or an error (where there was no intention on the author's part of using it in the first place. (Crystal 2000: 219)

2. Material and methods

The research is based on Richard K. Morgan's novel *Altered Carbon* (2002), and its two sequels: *Broken Angels*, and *Woken Furies*. Separate corpora were made from the three instalments in order to provide accurate numerical information: "If asked what is the one benefit that corpora can provide and that cannot be provided by other means, I would reply 'information about frequency'." (Leech 2011: 7).

The theoretical framework used as the grounds for this study is Construction Morphology: "Construction Morphology, which is considered to be a more recent approach to morphological analysis proposed by Geert Booij (2010, 2013), was developed from Construction Grammar. This theoretical framework seems to be particularly suitable for the study of complex words which linger on the borderline between morphology and syntax." (Vujić, Rabrenović 2019: 574). This approach is noticeably appropriate for the study of nonce-formations, considering the impossible task of delimiting if words that technically do not exist are compounds or collocations. An optimal solution would be to place them all on the spectrum of constructions: "A construction is a symbolic unit that combines both form and meaning, and may be linguistically complex." (Leech 2011: 22). Therefore, placing them on the same spectrum relieves the author of the obligation to determine if a multi-word unit belongs to morphology or syntax, or, as Booij (2010: 1) proposed: "It can be used both at the level of word structure and that of syntactic structure without obliterating the differences between those two domains." In other words: "Morphology and syntax are taken as expressions of the same system." (Masini and Audring, 2018: 472), the distinctions between which would be irrelevant for this study.

After potential nonce and neological constructions were identified in the pilot novel *Altered Carbon*, they were entered individually into Microsoft Excel, where they were assigned a colour, based on which one of three categories they belong to: neologism, semantic occasionalism, or traditional nonce-formation. The process of identification was threefold: first, units would be identified in the novel itself, after which they were entered manually into the Webster dictionary and the paid online version of the Oxford English Dictionary. If neither dictionary recognised the query as a neologism, the word would be further typed into Google to verify its inexistence. The primary reason for utilising OED was because it contains a clear marker for neologisms, as well as a rich variety of literature, including hapax legomena: "The OED has always taken pride in its policy of recording individual usages from major writers." (Crystal 2000: 218).

The criteria for identifying items which were kept as a part of the sample excluded well-known and established terms for existing *signifiés* at the time the novel was written (such as clone, or videophone), but included constructions identified by OED as science fiction. Those words were classified as neologisms, since they were known to be used in the discourse: "As soon as people are aware that they have

encountered or used a nonce-formation before, therefore, it ceases to be 'nonce.' 'Twice-formations' identify the beginning of the road along which a word has to travel before it is accepted as a neologism." (idem: 219-220).

The items that passed the mentioned verifications comprise the sample of 846 entries, with nonce-formations that form other nonce-formations written and counted as separate units, since they were used for the production of other units: "From the point of view of Construction Morphology, their schemas exist in the speaker's mental lexicon and can be analogically and productively used for new formations in adequate communicative situations. In addition, if we apply a constructionist approach to nonce-formations, we can see that those that become conventionalized actually form constructions." (Vujić, Rabrenović 2019: 574).

After arriving at a final sample, the methodology used for further quantification was Corpus linguistics. As Brezina and McEnery point out, it is a unique approach that offers not only information about the frequency of linguistic features, but also an insight into the context surrounding them:

"Corpus linguistics is an approach to the study of language that uses computers to analyse large amounts of language data, both written and spoken, which we call corpora (sg. corpus). This simple definition situates corpus linguistics in the tradition of linguistically grounded analysis that makes use of the development of computational technology to draw on evidence about language use that would not be accessible otherwise." (Brezina, McEnery 2020: 11).

The software chosen for data analysis is LancsBox, a programme which can be used offline, and offers numerical data, concordance lines, collocation networks (for which it automatically calculates statistical significance and produces diagrams), and the option to create one's own corpora: "This flexible tool, which runs on all major operating systems, represents a new generation of corpus analysis software. It provides a simple interface yet powerful analytical and visualization capabilities for corpus data. It allows multiple corpora to be easily compared and contrasted." (idem: 17).

Owing to this feature, conducting research for comparing and contrasting occurrences was made easy: "The remarkable power of OED and other computer corpora present us with new opportunities of inquiry into such matters." (Crystal 2000: 229). *Altered Carbon* and its two sequels were uploaded into the programme as three separate corpora, including only the text of the novels (without the foreword and information about the author). All found nonce and neological constructions were queried as lemmas and quantified (including all of their variations), based on their number of occurrences and relative frequency per ten thousand tokens. Then, the process was repeated for the same lemmas in the sequels. During the process of quantification for polysemic units (semantic occasionalisms), concordance lines were consulted in order to verify that those examples were indeed of nonce-formations, and not of their form equivalents from everyday discourse.

For the purposes of this paper, in order to display a representative sample of frequency and productivity, there had to be a selection of examples, which were divided into three categories. The excel table was sorted according to frequency in the pilot novel, and top 14 most frequent constructions were chosen for the "Most Frequent" category, ranging from 182 to 34 occurrences in the pilot novel.

Since the sample consisting of 846 entries contained exactly 550 hapax legomena (least frequent constructions occurring once), and Excel automatically sorts them alphabetically, the method for selecting equivalent 14 examples was random selection – every fortieth construction was chosen. They were assigned to the "Least Frequent" category.

For the constructions with "Mid-Frequency" due to the imbalance in the quantity of re-occurring words and hapax legomena, as well as a wide discrepancy in frequency of the fourteen examples from the first category, representative examples were chosen mathematically by taking the range of repeating words in between the two described categories (therefore ranging between 1 and 34) and dividing it by two to reach a middle ground. Therefore, mid-frequency words were considered to be those with 17 repetitions and fewer.

Last, GraphColl was used in LancsBox for all 42 examples to get statistically significant collocation networks visually represented. To avoid collocates with determiners, Meaningful Interaction was chosen as the setting instead of Frequency, with the statistic value of 3.0 and the collocation frequency of 3 for all queries.

3. Results

The data provided by LancsBox shows that the three separate corpora (*Altered Carbon, Broken Angels,* and *Woken Furies*) do indeed have a similar number of tokens, with only a slightly higher number in the third instalment, as can be seen in Table 1:

	Different Words	Lemmas
Altered Carbon	12.980	11.953
Broken Angels	12.663	11.688
Woken Furies	13.905	12.938

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Secondly, as shown in Table 2, out of all 42 occasionalisms selected for this study from the pilot, *Altered Carbon*, the results regarding their creativity, or more precisely the process of their formation (semantic, traditional or morphological nonce-formations, and neologisms) are the following:

	Semantic N-F	Traditional N-F	Neologism
Highest frequency	10	3	1
Mid-frequency	6	7	1
Lowest frequency	5	8	1
TOTAL	21	18	3

Table 2. Frequency of occasionalisms formation

As mentioned in the *Material and Methods* section, productivity was examined in three groups, classified by their frequency, with the hypothesis that less frequent constructions, as well as those with smaller collocation networks, would have a lower

number of occurrences in the sequels. Table 3 shows quantitative data about the most frequent occasionalisms in *Altered Carbon* (AC), and their re-occurrences in *Broken Angels* (BA) and *Woken Furies* (WF), while Table 4 and Table 5 demonstrate the number of constructions in the Mid-Frequency and Lowest Frequency category, respectively, in the same manner:

	AC	BA	WF
sleeve *	182 (11)	90 (6)	151 (8.1)
stack *	113 (7)	78 (5.3)	73 (4.1)
a virtual (N) *	98 (5.9)	37 (2.48)	33 (1.82)
Envoy *	92 (5.7)	129 (8.2)	142 (7.83)
Bay City [□]	66 (4.17)	0	1 (0.06)
neurachem [–]	58 (3.6)	27 (1.81)	33(1.82)
storage*	55 (3.5)	18 (1.21)	43 (2.37)
Harlan's World \Box	54 (3.4)	25 (1.7)	43(2.37)
synthetic / synth*	52 (3.3)	1 (0.07)	28 (1.5)
Head in the Clouds *	51 (3.22)	0	0
the tank *	51 (3.22)	8 (0.5)	13 (0.7)
blaster °°	39 (2.46)	18 (1.21)	59 (3.26)
Meth *	36 (2.3)	0	0
needlecast *	34 (2.2)	14 (0.9)	13 (0.8)

 Table 3. Occasionalisms in the mid-frequency category

	AC	BA	WF
Merge Nine	17 (1.07)	0	0
decant people	16 (1.01)	5 (0.33)	3 (0.17)
Licktown ^D	15 (0.95)	0	0
dip *	14 (0.9)	0	1 (0.06)
freight (V) *	14 (0.9)	2 (0.13)	0
Jack It Up *	13 (0.82)	0	0
Khumalo [–]	13 (0.82)	6 (0.4)	2 (0.11)
orbital *	13 (0.82)	18 (1.20)	47 (2.59)
Rawling (virus) \Box	12 (0.76)	4 (0.27)	2 (0.11)
grav harness \Box	12 (0.76)	7 (0.53)	2 (0.11)
offworld $^{\circ\circ}$	12 (0.76)	6 (0.4)	16 (0.88)
Reaper *	12 (0.76)	0	0
remote storage *	12 (0.76)	2 (0.13)	1 (0.06)
bubblefab	11 (0.7)	31 (1.86)	23 (1.38)

Table 4. Number of contructions in the mid-frequency category

	AC	BA	WF
fragmenting *	1 (0.06)	0	0
Quellism	1 (0.06)	5 (0.34)	9 (0.5)
sleevedealers [□]	1 (0.06)	0	0
brain dome	1 (0.06)	0	0
directed broadcast *	1 (0.06)	0	0
experia star	1 (0.06)	0	1 (0.06)
holoframes	1 (0.06)	0	0
laugh protocol	1 (0.06)	0	0
needlebeams *	1 (0.06)	0	0
placard generators	1 (0.06)	0	0
Stiffed *	1 (0.06)	0	0
temporary download *	1 (0.06)	0	0
Satyron [□]	1 (0.06)	0	0
borderliners °°	1 (0.06)	0	0

Table 5. Number of constructions in the lowest frequency category

4. Analysis and discussion

First and foremost, the primary hypothesis that *Altered Carbon* and its sequels have a similar number of words and lemmas was confirmed, which is visible in Table 1. This was significant to establish at the very beginning, in order to be able to accurately compare and contrast the numerical data about frequency in all three parts, and in all three groups. If there had been a severe discrepancy in the overall number of words and lemmas, the relative frequency of our occasionalisms per ten thousand words (expressed in the brackets in Tables 3, 4, and 5) would not have been equivalent, and therefore comparable.

The second part of the study was about the basic creativity in the pilot novel. Two theories were posed in the Introduction section: that there would be significantly fewer neologisms than occasionalisms, and that there would be slightly more semantic occasionalisms than traditional, morphological nonceformations.

As can be seen in Table 2, where all information is incorporated, the total number of neologisms is 3 – significantly fewer than that of occasionalisms (39), and there is one in each frequency group. Concrete examples of neological formations from the sample are marked in Tables 3, 4, and 5 with two circles in superscript above the entry ($^{\circ\circ}$) and consist of the following words: *blaster* (type of gun), *offworld* (on a different planet), and *borderliners* (people who live on the verge and do not belong to a certain category – not disfavoured, but not *Meth* either, not *neo-Catholic*, but not atheist either).

Table 2 also validates the theory that there would be slightly more semantic (21) than traditional, morphological occasionalisms (18). In Tables 3, 4, and 5,

semantic occasionalisms are marked with as asterisk (*), and include items such as: *sleeve, stack, storage, freight, orbital, Reaper, fragmenting*, etc. These occasionalisms are classified as semantic because they can all be found with a different meaning outside of the register, and their definitions in *Altered Carbon* can all be seen below, in Table 6.

sleeve *	physical body a person inhabits (temporarily)
stack *	microchip containing a person's consciousness
a virtual (N) *	tangible plane of existence used for all kinds of meetings
Envoy *	special soldier physically augmented for combat
storage*	a prison for stacks
synthetic / synth*	artificially-made sleeve (not tank-grown)
Head in the Clouds *	name of a high-end airship brothel which gets destroyed in AC
the tank *	machine where human bodies are cultured and grown
Meth *	(from Methuselah) extremely rich people with unlimited funds who live forever
needlecast *	transport one's consciousness from one stack to another
dip *	hack into a person's memory
freight (V) *	put someone's consciousness onto a microchip
Jack It Up *	name of a virtual brothel
orbital (N) *	satellites used for different purposes
Reaper *	name of a drug that gives one a near-death experience
remote storage *	construction relying on occasionalism mentioned above, but on the Cloud
fragmenting *	when someone's new body (sleeve) is rejecting their stack
directed broadcast *	directly into somebody's head (not into a computer)
needlebeams *	light seen during needlecasting
Stiffed *	under the influence of a drug called Stiff
temporary download *	temporarily inhabit a body

Table 6. Meanings of occasionalisms

Noticeably, despite their overall prevalence over morphological nonceformations, the number of semantic occasionalisms drops proportionately to the frequency category, as they diminish to hapax legomena. This could be attributed to the constructions already existing in our mental lexicon, and to their being more "available" and therefore suitable for the most important terms in the register, or even to productivity, since they are used for further coinages (which might even be classified as traditional). In fact, an example of this can be seen in Table 6, since *storage* is used to form another construction.

Since the following paragraphs deal with productivity and collocation networks, this is the optimal point for a brief explanation of morphological nonceformations found in the sample, in order to provide clarity and avoid any opaqueness in methodology. In Table 7 we can find traditional coinages (much like those found in classical literature), such as *Khumalo, Rawling* (virus), *bubblefab, Quellism, Satyron*, or *holoframes*, as well as constructions which contain constituents that have not appeared joint in everyday register: *Bay City, decant people, brain dome, laugh protocol, placard generators*, etc.

Bay City □	former San Francisco on Earth
neurachem [□]	neuron enhancers for better physical or intellectual capabilities
Harlan's World \square	name of a planet, a new Earth
Merge Nine	drug that enhances emotional and sexual experiences
decant people \Box	remove a grown sleeve from the tank
Licktown [□]	name of the city's red light district
Khumalo [–]	name of a brand of neurachem
Rawling (virus)	a military virus that destroys stacks of those it comes in contact with
grav harness	harness that creates or removes the impact of gravitational force
bubblefab	clear sphere used for police interrogations of witnesses
Quellism	philosophy that no human being should have the means to live forever
sleevedealers [□]	people who illegally obtain sleeves
brain dome	where a robot's brain is placed
experia star	actor that stars in experia films
holoframes [□]	frames that emit moving holographic images
laugh protocol □	robot's ability to laugh
placard generators	electronic poster used in protests
Satyron [□]	name of a pheromonal neurachem

Table 7. Coinages

Now that all the constructions from the sample have been explained, the focus can be shifted onto the hypothesis that more frequent constructions with collocation networks containing more statistically significant collocates are also more productive in the sequels: "Understanding these extralinguistic factors is key to understanding change in word-formation. Observing changes in the increases and decreases in productivity is the microscopic observation of changes in word-formation." (Cowie 2000: 180).

This article being a quantitative study, below are collages put together from the output of the LancsBox programme, using the parameters described in the Material and Methods section. Considering that detailed collocation networks were not of significance for the research hypothesis (only the quantity of their constituents), a clearer view of the following images of collocates can be found in the appendix.

Figures 1, 2, and 3 show the collocation networks of all the words in the Most Frequent category, in Table 3. As predicted, all networks show a rich variety of constructions, including combinations that create other nonce-formations: e.g., *sleeve theft, sleeve mortgage, virtual interrogation, stack intact, Envoy conditioning, Bay City police, particle blaster, tank gel, remote storage* and *Khumalo neurachem* (the last two constructions were in the Mid-Frequency category and will be used as a query below), and many more. Two exceptions stand out: *Head in the Clouds* and *needlecast*, whose collocates consist mostly of function words (determiners and prepositions). This could be explained by the fact that *needlecast* was the least frequent in the Most Frequent category, and used more often as a verb than

a noun; it does reoccur in the sequels, but even less than half as often. Not having a wide collocation network, *Head in the Clouds* does match the hypothesis of lower reoccurrence, but it is also explained by the setting of the pilot novel: not only is this establishment destroyed in the end, but other constructions with no reoccurrences, like *Bay City* and *Meth*, denote cultural aspects only present in the pilot.



Figure 1. A, B, C, D



Figure 2: A, B, C, D



Figure 3: A, B, C, D, E, F

Figures 4, 5, and 6 show collocation networks for the Mid-Frequency category. One collocation network (for *decant people*), is not visually presented below, because it does not have a single collocate, which is reflected in the low number of its reoccurrences. Several constructions show strong collocates: e.g., grav *harness* with *stealth* and *suits*, *freight* with *Harlan's*, *Rawling* with *virus*, and even *Khumalo* with *neurachem* (as seen in the previous category, this is a frequent construction whichever query is entered; however, it reoccurs as seldom as *decant people*) and *system*. The neologism *offworld* strongly collocates with the main character's last name, and reappears in a larger quantity in the last instalment.

However, certain constructions from this category solely stand next to auxiliary verbs, prepositions, and determiners: *Merge Nine, Licktown, dip, Jack it Up, orbital, Reaper, remote storage* (a construction from the previous category), *bubblefab.* Most have zero reoccurrences in the subsequent novels (*Merge Nine, Licktown, Jack it Up, Reaper*), thereby confirming the research hypothesis, but the nonce-noun *orbital* surprisingly breaks this pattern by being multiplied almost thrice in the last instalment, as confirmed by Table 4.



Figure 4: A, B, C, D, E, F









The Low Frequency category produced almost no collocates with the set parameters. The only construction with a collocation network of one is *laugh protocol* and it is depicted in Figure 7 below. We can safely assume this happened because laughter was written in direct speech. When reducing the collocation frequency in the software from 3 to 2, one additional example produces a collocation network of one: *Satyron*, and it collocates with *empathin*, yet another nonce-formation from the sample (with frequency between the Mid- and Low Frequency categories).



Figure 7

Obviously, reducing the frequency to 1 would give each word a collocation network, even our hapax legomena. However, the purpose of finding collocation networks for hapaxes was to see if any words were repeated in their vicinity enough times to form a network – therefore, this would have been redundant.

5. Conclusion

Fascinating results have been drawn from the sample of nonce-formations found in science fiction: "Given the fact that nonce-formations referring to elements of popular culture are communicated to a larger speech community (which increases chances that these words will be reused), their status, or, to put it more precisely, their non-lexicalizability, makes this kind of nonce-formations an interesting topic for discussion." (Rabrenović 2020: 154).

First, the three corpora for *Altered Carbon, Broken Angels,* and *Woken Furies* were proven to be numerically comparable, consisting of a similar number of

words and lemmas, giving us a basis for drawing parallels regarding quantity and productivity.

Second, the selection of 42 items (14 constructions from each of the three categories: most and least frequent, and those with mid-frequency, sampled as described in Section 2 – Material and Methods) contained the fewest neologisms (only three), confirming the theory on creativity stating that nonce-formations would be more numerous.

Next, the second creativity hypothesis that there would be slightly more semantic than morphological nonce-formations was also proven true, but with a decline in semantic occasionalisms, directly proportional to the reduction of construction frequency over the three categories. This could be explained by the fact that words that already exist in our mental lexicons are "catchier" and more memorable (especially when used with a completely different meaning), and that they were often used in the sample for the production of other nonce constructions.

The hypotheses on productivity were that more frequent constructions would appear more frequently in the sequels, as well as constructions that boast more statistically significant nodes in their wider collocation networks. Apart from some cases (seen in Tables 3-5), this was shown to be the trend. Some exceptions in the Most and Mid-Frequent categories (which were not repeated in the sequels) were: *Head in the Clouds, Meth*, or *Merge Nine, Licktown*, and *Reaper*. One construction in the Least Frequent category that has been recorded as recurring was *Quellism*, and, in the Mid-Frequent category, surprisingly, there was a multiplication of the constructions *orbital, offworld*, and *bubblefab*.

Though productivity may not be directly connected to the collocation networks allowing for a thorough examination of results for each individual example, it is evident that there is a connection overall between the likelihood of construction reoccurrence and the size of the collocation network, just like between the likelihood of reoccurrence and its frequency in the pilot.

A further examination of the morphological processes for the entire sample is advisable, and in the works, in order to see the processes hidden behind these nonce-formations, and even to potentially connect those mechanisms with the development of technology. Science fiction is a fitting genre for this type of research, considering the inexistence of such technology in real life. Therefore, it encourages the need to construct new coinages from scratch, with the knowledge of technology at our disposal – and expects the receivers of the message to correctly interpret and deconstruct its meaning: "In use the reality is that linguistic categories are fluid, grammar is emergent, language varies and changes constantly, linguistic forms are reinforced or weakened by frequency of use. [...] Speakers understand and produce both linguistic constructions they have already heard many times and new constructions." (Furtado da Cunha, Cezario 2023: 3).

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