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**WHEN NUMBERS ARE NOT WHAT THEY SEEM –
ANALYSIS OF THE FUNCTIONS AND DISTRIBUTION
OF NUMERALS IN THE NUMERONYMS FEATURED IN THE
*NETLINGO DICTIONARY OF TEXTING TERMS & ONLINE ACRONYMS***

Abstract: The paper attempts to explore the concept of numeronyms, which, in the literature of the subject, are perceived as numeral-based words. Its principal aim is to contribute to the existing discussion about numeronymy by offering a fresh perspective, concentrated on the *raison d'être* of numeronyms, i.e., numerical figures incorporated within. The analysis concerns particular examples of numeronyms, as featured in the *Netlingo Dictionary of Texting Terms & Online Acronyms*. This source comprises a list of acronyms and shorthands derived from two language varieties: textspeak and online slang. Specifically, subject to the analysis are those terms that, in their written form, contain numerical figures. The corpus of 200 numeronyms is scrutinised with respect to two factors, namely, the function the numeral performs in the numeronym, as well as the possible patterns regarding the distribution of particular numerals. The research, both quantitative and qualitative in nature, reveals four distinct functions of numerals within numeronyms: homophonic, conceptual, typographic and quantifying. Only the last group can be claimed to follow the function normally attributed to numerals, i.e., quantity property assignment. In turn, the distribution-oriented analysis brings to light the conclusion that certain numerals that point to number words possessing homophonic properties feature in numeronyms more prominently than others.

Key words: numeronyms, numerals, textspeak, online slang, homophony

Introductory word

From a psycholinguistic perspective, numerals¹ are essentially a verbal in their character and can be distinguished from any verbal material, such as letters, by the

¹ Although *numeral* can be understood as a 'word expressing a number', in this study it is used interchangeably with the expression numerical figure, i.e., one of the following symbols: '0', '1', '2', '3', '4', '5', '6', '7', '8', '9', as well as combinations thereof. Such treatment makes it possible to make a distinction between the notions of *numeral* and *number word* in the subsequent parts of the paper.

applicability of at least three semantic traits: numerical magnitude, parity and multiplicativity (Knops et al. 2006: 1).² The basic function of numbers is “to assign quantity properties to sums of individuals or chunks of stuff”, which is normally done via two different operations: counting and measuring (Rothstein 2016: 2). Counting involves ascertaining individual entities by sight or touch, whereas measuring requires one to use a particular device to gauge a desired quantity (e.g. weight). What follows is that counting relies on the use of discrete values that cannot be made more precise. For instance, one cannot be said to have 2.5 children; the value of the integer must be fixed, either 2 or 3. On the other hand, measuring operates on continuous data that can be reduced further to obtain fractions, and whose values can change with the use of more precise equipment.

In language, there exist, however, cases where our knowledge about numerals and the way they are supposed to work is challenged. Enter numeronyms, which, in the literature of the subject (Lančarič 2011; Borisova 2015; Ugli 2020), are understood as words that involve numerical figures, such as *142n8ly* or *4NR*.³ For Borisova (2015), numeronymy may be viewed as a type of abbreviation. The principal mechanism behind this word-formation process is shortening the word or phrase so that the newly-acquired condensed form retains the meaning of the unabridged. This view is consistent with what Ugli (2020: 49) considers numeronyms, i.e., forms such as *k9*, *gr8* and *2day*, all of which can be written without the use of numerals as *canine*, *great* and *today*.

Numeronymy seems especially prominent in those language varieties where time is of the essence. Yunis (2019) claims that one of such varieties is textspeak. As mentioned by Kul (2007: 444), one factor that largely contributes to the proliferation of abbreviations in text messages is speed. Modern technology makes it possible for a text message to be delivered in as few as ten seconds after it was sent. It is not surprising that the recipients will often want to respond promptly and what better way to achieve it if not by using abbreviations, numeronyms included.

Largely the same can be said about Internet slang. The term is to be understood as a non-standard version of a language that is used on the Internet by people to communicate with one another (Zappavigna 2012: 127). As argued by Sun (2010),

² Numerical magnitude alludes to the fact that numbers express different quantities and the values can be compared, e.g. $2 < 7$. Parity is the property by means of which integers are classified into one of two categories: even or odd. If the integer is divisible by two, it is said to be even. In turn, if the division by two leaves a remainder of one, the integer is odd. Multiplicativity stipulates that numbers can be multiplied to obtain other numbers, according to the rules of mathematics.

³ At this point, it must be remarked that in this study numeronymy is not perceived as a branch of etymology, as proposed by Moore (2011), who treats numeronyms as words whose origin can be traced to numbers. Examples of such words include *centipede*, a compound from Latin *centum* ‘hundred’ and *pedis* ‘foot’, or *hexagon*, from Greek *hex* ‘six’ and *gōnia* ‘angle, corner’, but also *monk*, from Greek *monakhos*, noun use of the adjective *monos* ‘alone, one’, as well as *migraine*, from Greek *hēmi-* ‘half’ and *kranion* ‘skull’ (OnED).

one of the distinguishing features of such discourse is brevity. In other words, since communication on the Internet is often based on rapid responses, the shorter the message, the better, provided that it communicates the intention and is still understandable to the recipient. One example of tools employed to fulfil this condition is claimed to be numeronymy.

While these sociolinguistic aspects of numeronymy are undeniably important, there exists another factor that often appears to elude the attention of scholars interested in the concept, namely, the use of numerical figures. The importance thereof is not to be underestimated, as numerals constitute the very nature of numeronyms. To put it bluntly, a numeronym without a numeral is not a numeronym. Therefore, the aim of this paper is to contribute to the existing discussion about the linguistic phenomenon of numeronymy by exploring this particular avenue.

Methodology of research

The object of the study, i.e., examples of numeronyms, has been retrieved from the *Netlingo Dictionary of Texting Terms & Online Acronyms*.⁴ This dictionary provides a comprehensive list of acronyms and shorthands that belong to either textspeak or online slang. Eligible for the analysis were words that contain, in their orthographic form, at least one of the following numerical figures: ‘0’, ‘1’, ‘2’, ‘3’, ‘4’, ‘5’, ‘6’, ‘7’, ‘8’ or ‘9’. In total, exactly 200 terms fulfilled the imposed condition.⁵ These terms, recognised as numeronyms, were then scrutinised with respect to two features: 1) function the numerical figure performs in the numeronym; 2) distribution of the particular numerical figures. The study possesses a quantitative and qualitative character in both cases.

In regard to the first factor, the analysis consisted mainly in a comparison between the orthographic form of the numeronym and its meaning, as derived from its entry in the dictionary in question. Understood as “function” is a reason certain numeral is used to form the numeronym. In the initial stage, the analysis

⁴ One of the problems with researching the concept of numeronyms is the fact that there exists no official source where a list of such words has been curated. The researchers are, therefore, forced to use unofficial, online sources, which are rarely examined (or even examinable) for accuracy. It is difficult to verify whether the terms presented in such a source are widespread enough to be deemed a novelty that prompts a language change or rather they merely constitute a quaint curiosity effectuated by a one-time situational need. For the sake of this research, it is assumed that all terms subjected to the analysis are being used actively by at least a small group of Internet users, and thus are more than one-off linguistic creations. This, in turn, has warranted them a place in the dictionary in question.

⁵ One term that was rejected is *HHO1/2K* ‘ha ha, only half-kidding’, which was opted out to avoid fractions.

was performed descriptively, following the fixed pattern that can be represented as “numeral A is used in numeronym B, whose meaning is C, because of the reason D”. To clarify, the annotation for *LY4E* looks as follows: “numeral ‘4’ is used in numeronym *LY4E*, whose meaning is ‘love you forever’, because ‘4’ is pronounced as ‘four’, which sounds similar to ‘for-’ in *forever*”. If more than one numeral was recognised within the same numeronym, such an annotation was written for each example separately. Consequently, all annotations were gathered and compared, which allowed the researcher to derive the functions that numerical figures perform in numeronyms analysed. It must also be remarked that the number of annotations for a numeronym was not considered tantamount to the number of functions. For instance, *142n8ly* has four annotations, however, in this case, the function of each numerical figure was deemed “homophonic” and therefore this numeronym was counted towards examples of “numeronyms wherein the numerical figures exhibit a homophonic function” only once.

In the second part of the analysis, the focal point was determining which numerical figures occur most frequently in the numeronyms in the corpus and what patterns regarding the already established functions they follow. To that end, every numeronym was analyzed in relation to its form to establish which numerals have been used in its formation. Although in the majority of cases the numeronyms included one or two numerals, some of them incorporated three (e.g. *E123* ‘easy as one, two, three’) or four (e.g. *142n8ly* ‘unfortunately’) such figures. If a numeronym contained the same numeral more than once (e.g. *121* ‘one to one’), and the function of each was deemed the same, it was counted only once.

Functions of numerical figures in numeronyms – results of the analysis

The analysis has uncovered four possible functions that numerical figures can perform in numeronyms. These are: homophonic, conceptual, typographic and quantifying. Fig. 1 depicts the quantitative results of the study.

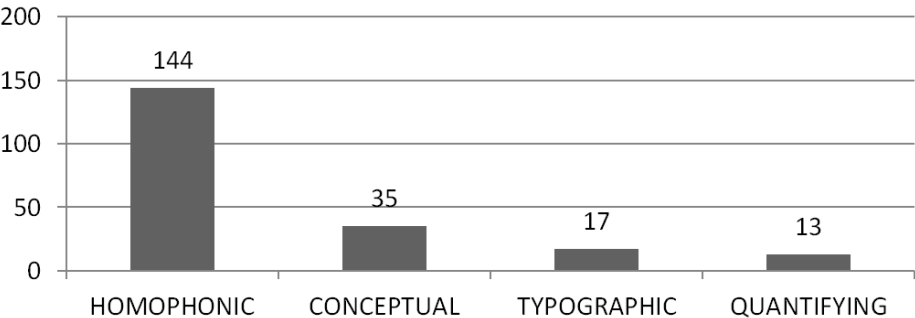


Fig. 1: Number of numeronyms wherein the numerical figures exhibit given functions

As evident from Fig. 1, in the overwhelming majority of cases analysed (72%), the function of the numerical figure has been classified as “homophonic”. Second in terms of magnitude (17.5%) is the conceptual function. The remaining two functions, typographic and quantifying, proved rarer than the rest and distributed rather evenly. It is worth noting that the sum total of terms in Fig. 1 is subtly different from the number of numeronyms analysed owing to the fact that the numerical figures in nine numeronyms in the corpus can be said to exhibit a double function, which means that they were counted towards two groups at the same time. Examples of such numeronyms are briefly discussed in section 3.5.

Homophonic function

As the name suggests, a homophonic function is grounded in the semantic relation of homophony, i.e., the similitude of sound. To be specific, the numerical figures featured in the numeronyms of this type replace parts of words, whose pronunciation is either identical or closely related to the pronunciation of the numerical figure that stands for a number word. If the pronunciations match exactly, the function can be called fully homophonic, as is the case with *GR8* (/ɡreɪt/ and /eɪt/) and *Cali4nia* (/kælə'fɔːniə/ and /fɔː/). If the pronunciations are similar, but not identical, the numeronym can be labelled as quasi-homophonic. For instance, *3dom* and the word it stands for, *freedom*, have different initial phonemes (/θriː/ and /friː/), but they both contain fricatives.

Conceptual function

As it turns out, in numeronyms wherein numerals exhibit a conceptual function, typically the whole numeronym stands for a certain concept, represented by the use of particular numerical figures. It can be argued that this particular function of numerals is not a novelty attributed to textspeak or Internet slang. In different cultures around the world, there exist certain numbers, whose use is synonymous with a given concept. To illustrate the point, it is enough to mention that for Christians, 666 is a common, symbolic way of referring to the Antichrist. The number has its origin in the Book of Revelation, the last chapter of the New Testament, which contains St. John’s visions about the end of the world (Beale 2015: para. 2).⁶ Numeronyms characterised by conceptual function are more particularized but similarly require from the interlocutor at least some degree of background knowledge shared with the speaker to be understood properly.

⁶ Interestingly, the symbolism of 666 appears so strong as to warrant its use as a metaphor for (quite subjectively perceived) evil. For instance, in the recent anti-vaccine campaign that bid to disincentivise people from getting vaccinated against Covid-19, 666 was used to refer to said vaccines (see Bohlinger 2020).

One instance of such a case is 404, which stands for a person who is either daft or uninformed (DC). This, in turn, is a reference to the HTTP status code error message “404 – File not found”, which indicates that the desired web page cannot be reached.

Another example would be 9, which is used as a secret code for “parent watching”, indicating that the interlocutor should neither use any words nor send any content that may later trouble the speaker (Birdsong: 2019). An illustrative case in point here is also 411, which is used in the sense of ‘relevant information’, as in the example sentence: *I received a call from their daughter, who excitedly gave them the 411 on all that had happened to her since arriving on campus* (MWD). 411 used to be the toll-free number for directory inquiries in Canada and the United States. In time, the number has developed a more general meaning of any piece of information (LOD).

Finally, one can also mention 420, used as a slang code for cannabis. The origins of this word can be traced to a group of students at San Rafael High School in California, the so-called “Waldos”, who one day found a map leading to a marijuana crop and from that moment would schedule their everyday meetings during which they would go there, harvest the leaves and smoke them, precisely at 4:20 p.m. (Lewis 2014: para. 3). Incidentally, April 20 (4/20) is celebrated as “World Weed Day”.

Quantifying function

A quantifying function reflects the most typical role of numbers, viz. assignment of quantity properties. In other words, the numerical figures that exhibit such a function are to be viewed as full-fledged numbers that indicate a certain quantity. The most common pattern is when each digit in the numeronym stand for a certain quantity on an individual basis, e.g., 143, which means ‘I love you’ and is based on the number of letters that these three words contain in this phrase.

Typographic function

In typographic function, numerical figures are used not because they denote numbers or refer to any number-related concept, but rather because the shape of their orthographic form resembles a character or symbol (or a part thereof) one desires to achieve. Three different manifestations of this function were distinguished in the corpus. Firstly, a number of numeronyms do not form any word that can be written in letters. Instead, they portray an icon that bears a resemblance to a physical object or its pictorial representation. For instance, the numeronym <3 is supposed to stand for ‘heart’, but the similarity concerns

not the shape of the actual organ, but rather its conventional ideogram (♡). Secondly, in some numeronyms, numerals are incorporated to replace certain letters. By way of illustration, in the numeronym *id10t*, the letters ‘i’ and ‘o’ are substituted for the numerals ‘1’ and ‘0’, and in the numeral 53X, ‘5’ and ‘3’ replace the letters ‘S’ and ‘E’. Lastly, 303, a numeronym fully comprised of numerical figures at first glance appears not to resemble anything in its shape, while, in actuality, it does. The link between the meaning of this numeronym, ‘mother’, and its orthographic form, as well as the typographic function of all the numerals contained within, become apparent if one rotates the numeronym 90 degrees anti-clockwise, as shown in Fig. 2:

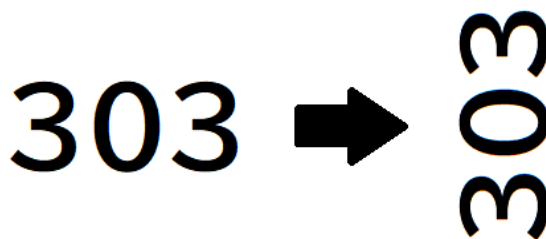


Fig. 2: Diagram explaining the veiled meaning of the numeronym 303

Numeronyms wherein the numerical figures exhibit mixed functions

Nine numeronyms in the corpus prove highly intriguing, as their numerical figures can be said to perform mixed functions. What is meant here is that, within the same numeronym, the roles of at least two different numerals were deemed different. Theoretically speaking, combinations of all four functions are possible. The most featured in the corpus, however, was the mixture “homophonic + typographic”. One illustrative case in point is the numeronym *182*, which bears the meaning of ‘I hate you’. In addition to the homophonic function performed by the numerals ‘8’ and ‘2’,⁷ the numeral ‘1’ is used for typographic purposes, as it stands for the pronoun *I*.

Distribution of numerals in numeronyms – results of the analysis

The analysis has revealed major discrepancies between the number of particular numerical figures in the corpus. The quantitative results of the study are provided in Fig. 3:

⁷ Note that the numeral ‘2’ here is only quasi-homophonic.

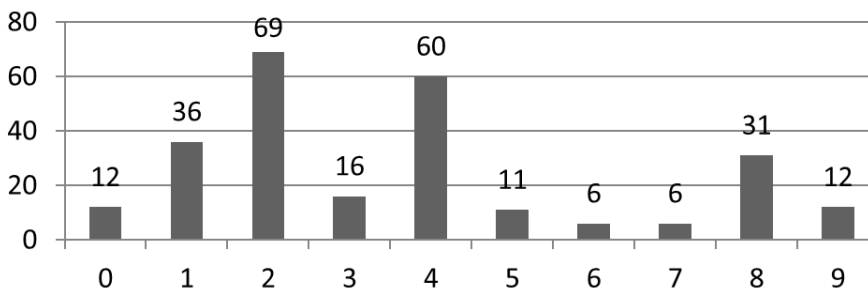


Fig. 3: Distribution of particular numerals in the numeronyms in the corpus

As illustrated in Fig. 3, by far the most frequent are the numerals ‘2’ and ‘4’. Together they constitute nearly half of all instances studied. Their considerable representation in the corpus cannot be deemed a mere coincidence, as their number words *two* and *four* possess a substantial homophonic potential, which, as indicated previously (see Fig. 1), is reflected in the homophonic function represented by the greatest number of members. Specifically, in this particular function, ‘2’ replaces the preposition *to*, e.g., in *S2G* ‘swear to God’, the adverb *too*, as in *U2* ‘you too’, as well as the combination of letters ‘to’, for instance in *2day*. In turn, ‘4’ is used instead of the preposition *for*, as in *4COL* ‘for crying out loud’ and the combination of letters ‘for’ and ‘fore’, e.g. *4NR* ‘foreigner’ and *B4* ‘before’. Interestingly, in contrast to ‘2’, ‘4’ does also represent a typographic function in the numeronym *H4X00R* ‘hacker’, wherein it replaces the letter ‘A’, based on the (rather vague) similarity of shape between the two characters.

Following ‘2’ and ‘4’ is the jack-of-all-trades in the field of numeronymy, the numeral ‘1’. It exhibits all functions, with the homophonic potential of the number word it stands for being by no means inferior to that of ‘2’ and ‘4’, as it often replaces the combinations of letters ‘one’ and ‘won’, as in *some1* and *1daful*. In its typographic function, ‘1’ tends to be used instead of ‘i’, as in *id10t*.

As it turns out, important in the context of homophonic function is also the numeral ‘8’. Typically, the combination of letters substituted for it is ‘ate’, as in *M8* ‘mate’ and *L8R* ‘later’, but other configurations are also possible, as is the case in, for instance, *STR8* ‘straight’. Not being similar to any letter of the Latin alphabet, it would seem that ‘8’ rarely features in a typographic function.

Apart from these four numerical figures, the rest appears to be distributed rather evenly, with ‘6’ and ‘7’ having the lowest representation in the corpus. It must be emphasised that in the case of a quantifying and a conceptual function, the choice of the numeral does not seem to matter, as the performance of these functions is never dependent on the inherent characteristics of that numerical figure (i.e. either its shape or pronunciation of the number word it points to), but rather an association one has with these numerals, most frequently appearing in combinations.

Notably, however, the numerals ‘0’, ‘3’ and ‘5’ do exhibit some (albeit limited) degree of typographic potential, as ‘0’ can be found in such numeronyms as *d00d* and *n00b*, whereas ‘3’ and ‘5’ replace the letters ‘E’ and ‘S’, respectively, as in *P3R50N*. Perhaps quite predictably, given an informal character of a discourse where such numeronyms can appear, the numeral ‘6’ shows that ‘the number word ‘six’ has some homophonic potential, acting as a replacement for the word *sex*, for example in *LH6* ‘let’s have sex’. Finally, it can be argued that the numerals ‘7’ and ‘9’ are the least productive, as ‘9’ features in only one homophonic function, in the numeronym *g98t* ‘good night’, and no homophonic or typographic function has been noted with respect to the numeral ‘7’.

Conclusion and implications for further research into numeronymy

The study has revealed that numerical figures can perform four distinct functions within numeronyms. The most common functions are homophonic, i.e., based on the similitude of sound between the number word the numeral points to and the part of a word it replaces, and conceptual, in which case typically the whole numeronym stands for a concept derivable from the association with the numerical figures used to convey it. Considerably less frequent yet still observable functions are also typographic, where the numeral is used solely because of the shape of its orthographic form, as well as quantifying, which follows the basic, commonsensical role of numbers, namely that of quantity property assignment. Further fragmentation is also possible, as, for instance, within a homophonic function one can differentiate between fully homophonic and quasi-homophonic. In a limited number of cases, numeronyms incorporate multiple numerals that perform different functions, with the combination “homophonic + typographic” proving the most frequent. Notably, no numeronym in the corpus features one and the same numeral that can be claimed to perform two different functions.

Furthermore, the distribution-oriented analysis has also uncovered a number of interesting observations. It would seem that in the formation of numeronyms, vital are especially numerals that stand for those number words that exhibit homophonic properties, i.e., numerals ‘2’, ‘4’, and, to a lesser extent, ‘8’ and ‘1’. Not without their significance are also numerical figures whose shapes bear a resemblance to letters of the Roman alphabet, as is the case with numerals ‘1’, ‘3’, ‘5’ and ‘0’. On the other hand, numerals ‘6’ and ‘7’, not exhibiting a homophonic or typographic function, are the rarest occurrences in the corpus.

Worth pointing out is that the results of the study have important implications for other aspects of research into the notion of numeronymy. If forms such as *420* or *411* are to be understood as numeronyms⁸, then it may not follow that

⁸ Cf. Borisova’s (2015) categories of full and partial numeronymy.

abbreviation is to be viewed as the sole mechanism of numeronym formation, as in these cases the numeronym replaces the intended word entirely rather than constitute a simple shortening of its form. Perhaps to account for the conceptual function of numerals contained within, it would be more accurate to attribute such forms to metonymy, recognised as ‘a cognitive process in which one conceptual entity, the vehicle, provides mental access to another conceptual entity, the target, within the same domain’ (Kövecses & Radden 1998: 39). Admittedly, however, the conceptual link between *420* and *marijuana* is visibly weaker than in the case of more representative examples of metonymy, such as *neon*, primarily a gaseous chemical element, which lends its name to a fluorescent lamp or sign that contains atoms thereof (LOD). Perhaps, the conceptual connection appears more tenuous owing to the use of numerals, which, offered without any context, provide the recipient with no relevant hints as to deciphering the meaning of the numeronym. This observation, in turn, may point to the possible inclusive role of numeronyms, following one of Tabouret-Keller’s maxims “talk in such a way that you are recognized as a member of the group you wish to identify with” (Keller 1994: 97). In a similar vein, in numeronyms such as *id10t*, a typographic function of the numerals ‘1’ and ‘0’ appears to contradict the popular view that numeronyms are resorted to due to language economy, as the sender of a message that reads *id10t* instead of *idiot* gains nothing in terms of time. One explanation could be that such forms have arisen with a view to circumventing censorship algorithms employed in Internet chat rooms, however, this point is yet to be verified and certainly transcends the scope of this study.

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