

The Frequency and Usage of Word Formation Processes in Creating New Terms Pertaining to Coronavirus in Written Discourse COVID-19

Božana Tomić

Assistant Professor, Faculty of Philology, Slobomir P University

Jelena Šajinović Novaković

Associate Professor, University of Banja Luka

Abstract

Language as a living thing is the subject of constant adaptations and it evolves in line with the social changes. Every new situation that humanity faces leads to the creation of new words. This paper deals with the terms used in the newspaper to describe all aspects of the coronavirus situation. The idea is to examine which morphological processes have been applied to create these new terms pertaining to coronavirus. The aim is to determine which morphological processes are currently productive in word formation processes. As the analysis has shown, those are the processes of affixation, compounding and blending and some other processes that will be discussed here. The main focus of this analysis is to determine the most productive word formation process in creating words related to coronavirus nowadays. Also, the goal is to represent certain syntactic features of each process involved in creating new words related to coronavirus pandemic in media.

Keywords: word formation, Coronavirus, morphology, affixation, compounding.

1. Introduction

Words live as long as we use them. They name the things which surround us. They also record the changes taking place around us. That is why countless words used in conversation are new, made up on the spur of the moment (Catamba, 1993, p.65). They are born when the entities they refer to become part of our knowledge. At certain points in history there were attempts to express circumstances people at a time faced. For example, Brexit has led to a creation of new words pertaining to this specific issue.

More recently, coronavirus pandemic has brought a whole lot of new words into language which describe this global problem and the effects it has on people. Even though they have been created purposefully they have certain limitations—they have to respect the word formation rules of the language they are coined in. Those new words are primarily presented in the language of the media and spread afterwards like wildfire to all segments of our lives. You might have already heard or used words like *social distancing*, *WFH* or *herd immunity*. A great number of the words used for this purpose come from the field of medicine since covid is firstly a medical problem, then a social one. Words like *comorbidity*, *immunocompromised*, *proning*, *intensivist*, *patient zero* have stepped out from LSP and become widely accepted and used terms. Other words like *shelter in place*, *lockdown*, *coldzone* come from emergency discourse, and words like *social bubble* or group of people who agree to limit their social interaction are neologisms.

There are a lot of words used to described this newly created situation, and we as linguists are interested in mechanisms they are created by and morphological processes they have undergone on their way of becoming part of our lexicon.

Morphologically speaking, there are seven-word formation processes, four of which are major such as prefixation, suffixation, conversion and compounding and three of which are minor: back-formation, reduplication, abbreviation (clipping, acronyms and blends). Prefixes used for creation words in English are mostly of Latin and Greek origin but there are also Anglo-Saxon prefixes. According to the meaning they convey, prefixes can be: negative (*dis-, in-, non-, un-*), reversative (*de-, dis-, un-*), pejorative (*mal-, pseudo-, false-*), degree and size (*arch-, co-, hyper-, mini-, out-, over-, sub-, super-, sur-, ultra-, under-*), orientation and attitude (*anti-, contra-, counter-, pro-*), locative (*fore-, inter-, sub-, super-, trans-*), time and order (*ex-, fore-, post-, pre-, re-*), number (*bi-, poly/multi-; semi/demi, tri-, uni/mono-*), miscellaneous neo-classical (*auto-, extra-, neo-*), conversion (*a-, be-, en/em-*).

Certain number of words in English were created by combining two or more lexemes to get “a lexical unit consisting of more than one base and functioning both grammatically and semantically as a single word” (Quirk, 1985, p.1567). Both bases in compounds are in principle equally open, they are normally in a relation whereby the first is modifying the second (*ibid.*). They tend to be semantically transparent. Their spelling varies and ‘they may even occur in three different forms,’ solid’, ‘hyphenated’ and ‘open’ (Quirk, 1985, p.1569).

Some English words are formed by snipping components from existing words and stitching the components together either through simple concatenation or through concatenation coupled with overlap of shared phonological segments (Kelly, 1998, p.579). Those are made by the process of blending. Blends are a subclass of abbreviation processes in English which are very like compounds but with a tendency towards economy of the expression (Körtvélyessy et al., 2015, p.86) Blending is a very productive process, especially in commercial coinages which suggests that its rather

daring playfulness is popular (Quirk, 1985, p.1583), but short-lived. Although considered to be a minor word creation process in morphology, blending will prove to be very productive in the creation of coronavirus words.

Acronyms are words made up from the first letters of the name of something. Like blends, they show tendency towards economy of expression. That is why 'new acronyms are freely produced, especially by scientists and administrators (Quirk, 1985, p.1581).

According to the research results, some of them are more productive in creating words to describe the growing phenomenon of coronavirus. When we say that some are more productive, we mean that some have "the potential to lead to new coinages" (Bauer, 2003, p.41). However, there have been unresolved disputes in morphological studies over what it is that is productive. Some argue that affixes are productive, for some others it is a morphological process that is productive. We would agree with the latter because a lot of words in English are not created derivationally. But we have to bear in mind that the question of productivity is diachronic. For example, in the fifteenth century there was one productive method of making nouns in *-al* plural; in the sixteenth century a change took place so that this method was no longer productive, and a different method became productive (Bauer, 2003, p.8). Thus, we come to the point of this study- to show which word formation processes are currently productive in English regarding the description of the global phenomenon that has struck us all, the phenomenon of coronavirus pandemic.

2. Methodology

The corpus used for this research consists of 1 million words, and it is made of articles on coronavirus taken from the official *The Guardian* website (January-December 2021).

During the analysis, we used an analytical method which provided results regarding frequency and productivity of word formation processes, and also enabled us to see syntactic and semantic features.

3. Results and Discussion

Our analysis has shown that the most productive way of deriving new words related to coronavirus is compounding or word. The table below shows that word-composition is a highly productive type of word formation process in creating new words describing coronavirus situation which represented 58 % of the total examples found.

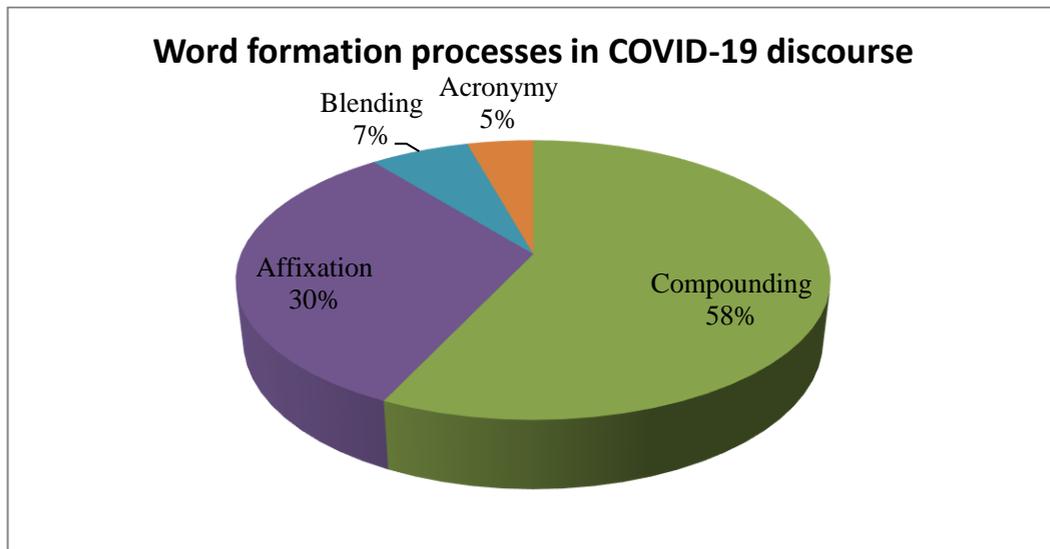


Table 1: Percentage distribution of word formation processes in written discourse COVID-19

Taking into consideration the figures in Table 1, we can see that affixation at 30 % representation is nearly half the amount of compounding. Blending and acronymy represent minor ways of producing new words in the analyzed material.

3.1 Compounding

As already stated, compounding is a highly productive word formation process in the analyzed material. It is of interest to emphasize that most of compounds found belong to the class of adjectives and are all spelt with a hyphen (*covid-curious, covid-sceptic, coronavirus-inspired*). The first IC (Immediate Constituent) is mainly the word *covid* (*covid-ridden, covid-adapted*) while the word *coronavirus* is less used (*coronavirus-linked, coronavirus-free*). The word *Covid-19* occurs rarely as the first IC in compound adjectives (*covid-19-related, covid-19-stricken*). The only adjectives that combine with all three ICs in our material are *free* and *stricken* (*covid-free/stricken, coronavirus-free/stricken, covid-19-free/stricken*).

A few of these compound adjectives *corona-virus free, covid-proof* and *covid-safe* belong to type verbless and can be paraphrased by an adjective that has a prepositional complement (free from coronavirus, proof against coronavirus, safe from coronavirus).

Compounds that belong to the class of nouns are less numerous and are mostly spelt with hyphen (*covid-pneumonia, covid-toes, corona-divorce*), and rarely are spelt solidly (*coronaapocalypse, coronadouche, coronatunes*). Few of them are true neologisms like *caremongering* and *maskshaming*. Compounds made this way are semantically transparent which means that 'the meaning of a compound is related to

the meaning of its constituents' (Borgwaldt, 2010). And here both constituents are transparent. Their transparency is pragmatically conditioned and is related to the discourse they appear in, press discourse which aims at a wider audience, that is readers. Since these compounds are transparent, 'readers of the press are not struck every couple of lines by the fact that there is a new word which they have not met before' (Bauer, 2003, p.117) but a word whose meaning is easily predictable. Almost all noun compounds have the word *covid* as the first IC (*covid-era*, *covid-proof*, *covid-deaths*) and rarely does the word *covid-19* occur as the first IC (as in *covid-19 crisis*).

A few of noun compounds belong to synthetic compounds, that is, they represent polymorphic words of secondary derivation, i.e., derivatives built according to an affixal pattern but on a compound stem for its base (Ginzburg, 1979, p.141). These words usually comprise patterns such as $[[n+adj] + -er]$ as in *covid-safer*; $[[n+adj] +-ness]$ as in *covid-preparedness*; and $[[n+v] +-ing]$ as in *covid-beating*. As for polymorphic adjectives, they follow the pattern $[n+ (un-+adj)]$ as in *covid-unsafe*.

Among noun compounds found, we also registered string compounds where the first element of a compound can itself be a compound or it can consist of more than three links (Jespersen, 1954, p. 154) such as *Covid-19-causing coronavirus*, *Covid-zero strategy*, *Covid-busting tool*, *bouncers-turned-Covid cops*.

When analyzed from the point of view of general relationship and degree of semantic independence of ICs; majority of compounds found in written discourse COVID-19 fall into the class of subordinative compounds. Coordinative compounds where the ICs are semantically equally important are rare and we registered only the compounds *Covid-19-crisis* and *covid-era*.

Subordinative compounds where the ICs are based on the domination of the second IC which, as the head-member, determines the part of speech meaning of the whole compound. Given that this type is the most productive type of compound words in Modern English, it is not wonder that subordinative compounds are dominant in the analyzed material. From the point of view of the order of components, subordinative compounds can be classified into *asyntactic* (ICs are **not** placed according to the rules of syntax) and *syntactic* (ICs are placed according to the rules of syntax). In the analyzed corpus, syntactic compounds are not frequent and always comprise the pattern $n+n$ as in following examples: *coronacapitalism*, *covidmaternity*, *coronapolitics*, *coronabond*. On the other hand, the asyntactic order is frequently used in majority of compounds found. It must be emphasized that majority of asyntactic compounds belong to the class of adjectives, while compounds nouns are rare (*covid-fighting*).

As shown in Table 2, compound adjectives usually follow one of the three patterns: $n+ adj \rightarrow adj$, $n+(v+-ed) \rightarrow adj$ where the second IC is *-ed* participle, and $n+ (v+ -ing) \rightarrow adj$ where the second IC is the *-ing* participle. The analysis has shown that the most

productive pattern in our material is $n+(v+-ed) \rightarrow adj$ while the other two types are less used.

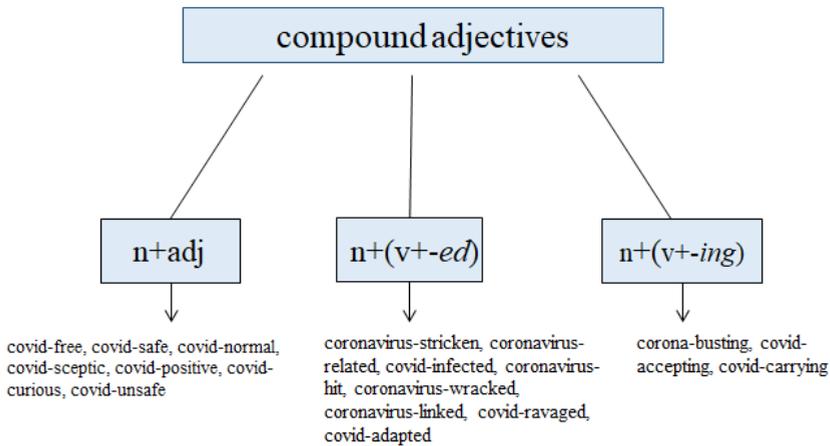


Table 2: Productive patterns of compound adjectives

It must be noted that majority of adjectives of $n+(v+-ed) \rightarrow adj$ type usually have the word *covid* as the first IC (*covid-linked*, *covid-disrupted*, *covid-tested*, *covid-ridden*, *covid-inspired*) except for the past participles *-related*, *-hit*, and *-stricken* which are usually combined with the IC *coronavirus* (*coronavirus-stricken*, *coronavirus-related*, *coronavirus-hit*). *Covid-19* as the first IC is very rare and it is only attached to the past participle *stricken* in a few examples (*covid-19-stricken*).

Asyntactic compounds of the type $n+ adj \rightarrow adj$ always have the word *covid* as the first IC (*covid-curious*, *covid-free*, *covid-safe*, *covid-positive*) while compounds of the type $n+(v+-ing) \rightarrow adj$ equally combine with words *covid* and *corona* as the first IC (*covid-accepting*, *corona-busting*).

A few of these compound adjectives *corona-virus free*, *covid-proof* and *covid-safe* belonging to type verbless can be paraphrased by an adjective that has a prepositional complement (free from coronavirus, proof against, safe from).

Following the syntactic criteria, most compounds in our material belong to endocentric compounds meaning that belong to the same word-class as the second IC (*covid-status*, *covid-deaths*, *covid-induced*, *coronavirus-inspired*). However, a few of compounds we found belong to exocentric compounds and mainly comprise the following patterns $n+ v \rightarrow adj$ as in *coronavirus-hit*, $num+ N \rightarrow adj$ as in *zero-Covid*, and $adj+ N \rightarrow adj$ as in *long-Covid*.

3.2 Affixation

In written discourse, that is in the texts on COVID-19, derived words formed by affixation are less numerous. The majority of these words which appeared during

coronavirus are formed by the application of prefixes to bases related to coronavirus, while we found only one suffix that is used in this word formation process.

The most common prefixes used in this process are the following prefixes which belong to different groups of prefixes:

prefixes of time and order *pre-*, *mid-*, *post-*

pre-corona, *pre-covid*, *mid-corona*, *post-covid*, *post coronavirus*

prefixes of degree and size *super-*:

superspreader

prefixes of orientation and attitude *anti-*:

anti-buddies, *anti-coronavirus*, *anticovid*

negative prefixes *non-* and *un-*:

non-coronavirus, *non-covid*, *un-covidy*

prefixes of time and order *ex-*:

ex-covid

miscellaneous neo-classical prefixes *self* and *pan*:

self-isolation, *self-quarantine*, *pan-coronavirus*

The only registered suffix in the analyzed material is noun/adjective suffix *-like*:

covid-like, *coronavirus-like*

It is of interest here to emphasize that majority of these affixes are of Romanic origin (*pre-*, *post-*, *super-*, *non-*, *self-*, *ex-*), but rarely of Germanic (*mid-*, *un-*, *-like*) and Greek (*anti-*, *pan-*) origin.

The most productive prefix in our corpus is the prefix *post*, followed by the prefix *non-*. Prefixes *pre-* and *anti-* are less attached to bases describing coronavirus, while prefixes such as *self-*, *pan-*, *mid-*, *un-*, *super-* and *ex-* are rarely used. When it comes to bases to which our affixes are attached, the most numerous is the base *Covid* which is mostly combined with prefixes *post-*, *non-*, *ex-* and *pre-*, while the base *coronavirus* is less frequent to which usually prefixes *mid-*, *pan-* and *anti-* are attached. The base *Covid-19* is less used and it combines only with prefixes *non-*, *post-* and *pre-*, while bases such as *corona* (*pre-*, *post-* and *anti-*) and *covidy* (*un-*) are rare. It must be noted that the suffix *-like* is equally attached to bases *coronavirus* and *covid*.

Apart from the above-mentioned bases, we also found bases that don't include *corona*-roots but are related to coronavirus situations such as *isolation* (*self-*) and *spreader* (*super-*). The majority of derivatives premodify other nouns, the most

frequent ones of which are nouns like *patients, syndrome, levels, measures, economy, illnesses, deaths, conditions, vaccine, recovery, state* and *world* (Table 3).

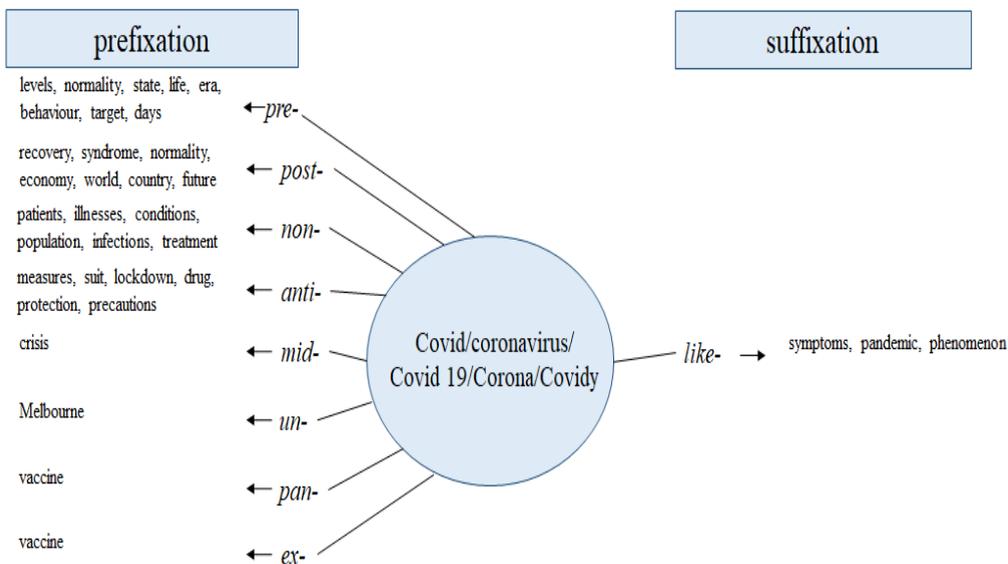


Table 3: Most frequent nouns premodified by derived words formed by affixation

The most frequently used noun *patients* is mainly premodified by derivatives with the prefix *non-* as well as nouns *illnesses, deaths* and *conditions*, while the noun *syndrome* is usually combined with derivational bases with the prefix *post-* and the suffix *-like*. Derivatives with the prefix *pre-* are most numerous with nouns *levels* and *states*, derived words with the prefix *anti-* mainly premodify the noun *measures*, and derivational bases with prefixes *pan-* and *ex-* are combined with the noun *vaccine*.

The majority of derived words formed by affixation premodify simple noun phrases, although we also registered premodification of compound noun heads (*enforcement and welfare measures*) and complex noun phrases where the heads are postmodified by the *of*-phrase (*state of innocence, drug of choice*).

In addition, the registered derivatives also premodify string compounds (*US-bound flights, consumer spending boom, vaccine guinea pig*), but also compounds that follow the pattern *n+ (n+n)+s* such as *medical backlogs*.

Derivatives with prefixes *pre-*, *post-* and *mid-* such as *pre-Covid, post-Covid-19, pre-corona* and *mid-Covid* often perform the function of time position adverbs within the clause:

Pre-Covid about 15 million people a month went to the cinema, while London theatres attracted the same number every year.

Abbreviated words with affixation such as *uncovidy* have a highly informal tone and they mainly characterize the type of slang developed in close social groups, and occur with certain affixes such as *-y*, *-o*, *-er*, *-s* which are called familiarity markers (Quirk, 1985, p. 1584):

Earlier this year, even the sainted Kylie bailed from Covid-ridden England to the relatively unCovidy Melbourne.

3.3 Other minor processes

Some words which describe corona are made by clipping two words and making one in the process called blending. This process is an economical one. The first word in a blend is either *covid* or *corona*, sometimes *quarantine* and the second is a common noun: *covidiot* (covid and idiot, refers to a person who disregards safety measures or goes against public health suggestions), *covidient* (covid and obedient, someone who follows all rules related to coronavirus pandemic) *covi-vac* (covid and vaccine), *covideoparty* (covid and videoparty), *coronacation* (corona and vacation), *coronials* (corona and millennials), *coronanomics* (corona and economics), *corona-oke* (corona and karaoke), *quaratimes* (quarantine and times), *quaranteams* (quarantine and teams), *quarantine* (quarantine and martini, a term for any drink consumed at home during lockdown), *Covishield* (covid and shield), *Covaxin* (covid and vaccine), and *Corona-Coaster* (corona and rollercoaster). The only blend which does not belong to the above-mentioned class is *zumping* (zoom and dumping or dumping a romantic partner via Zoom or similar application). Blends that are most often used in our corpus are *Covishield* and *covidiot*.

A few words used to describe corona situation are acronyms which have been known in the world of acronyms before coronavirus even showed up. Those are acronyms like PPE (personal protective equipment), PUI (person under investigation), PCR (polymerase chain reaction) RO (R-naught). The only acronyms which have been created to describe this newly arrived situation and which have been used widely are WFH (working at home), COVAX (COVID-19 Vaccines Global Access), Cog-UK (Covid-19 Genomics UK), and C-TAP (Covid-19 Technology Access Pool).

There are expressions in coronavirus language made up on 'the spur of the moment' like *quarantine and chill* (making oneself relaxed at home while staying at home), or borrowed from other discourses e.g., *flat the curve* is a scientific term for a strategy to slow down the spread of virus so as not to overwhelm our health care system, and *virtual happy hour* is a marketing term referring to meeting online over games, and drink.

4. Conclusion

Modern English uses different patterns of word creation. The most productive ones are definitely compounding, prefixation, and blending. Since coronavirus is a phenomenon, both medical and social that is present in a period of time it is no

wonder that new words pertaining to it have prefixes that position some other events with respect to it, show attitude towards it, or the intensity. Our analysis has shown that compounding is the most productive word formation process in creating new words that describe coronavirus. There are two types of compounds which describe coronavirus: noun compounds with *corona* and *covid* being the first part and adjective compounds which have coronavirus as the first part and mainly the form of *-ed* participle as the second.

Affixation is less used in forming new words in the analyzed material. Prefixes are mainly attached to nouns to form other nouns. The most common ones belong to the following groups of prefixes: prefixes of time and order, prefixes of orientation and attitude, negative prefixes, miscellaneous neo-classical prefixes, prefixes of time and order, and prefixes of degree and size. Suffixation is rare and the only registered suffix is noun/adjective suffix *-like*.

The same appears in blends where the first word in a blend is either covid or corona, sometimes quarantine and the second is a common noun. Some of the acronyms used in corona discourse have been created before the coronavirus broke out like PPE, PUI, PRC. The only acronyms created for the purpose of describing corona situation are WFH, COVAX, Cog-UK, and C-TAP.

If we take into account that these corona words are mainly used in the press and by the press then it should not come as a surprise that most of them are transparent and easily derivable from the parts they are made of.

Taking into consideration that this is the topic of peculiar importance, we consider that it will give a significant contribution to further research of word formation processes in creating new terms related to coronavirus especially compounding since it appears as the most productive process hitherto.

Also, this paper provides a starting point for future research on word formation processes in spoken discourse. To that end, it would be interesting to see the most productive word formation processes and to compare them with the results given in this paper. Furthermore, we recommend diachronic study since the beginning of COVID to determine whether the most productive type of word formation process in creating new words pertaining to coronavirus has changed over the course of time.

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