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Formulaic Language in the Magnifying Glass. Setting Parameters on the Analyzability of Linguistic Structure

Abstract. Adopting the model of Cognitive Grammar as proposed and developed by Ronald Langacker (1987, 1991, 2008), the article applies three basic cognitive parameters on the continuum of linguistic structure: analyzability, compositionality, and institutionalization, to an analysis of proverbs and especially to new proverbial modifications. The aim of the study is twofold: first, by proposing a two-dimensional coordinate system, we seek to establish a correlation between analyzability and compositionality. Second, by adding a third parameter on linguistic structure, namely institutionalization, we develop a three-dimensional system which, we believe, can offer a fuller account of the grammar-lexicon continuum.

Key words: cognitive grammar, analyzability, compositionality, institutionalization, formulaic language, proverbs, modified proverbs, idioms

1. Introduction: formulaic language

Formulaic language[1] is all-pervasive (Nattinger and DeCarrico 1992: 66): one can hardly avoid using it when speaking a language fluently. In this article we inquire into the nature of formulaic expressions and, more importantly, propose a theoretically viable account of them.

[1] For the purpose of this article such terms as *formulaic language*, *prefabs*, *fossilized language*, *idiomatic expressions*, *prefabricated units* will be used interchangeably.

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Data: 15/11/2026 22:48:28

The article consists of two major sections. First, in section 1 we look at formulaic language from a cognitive perspective. Section 2 offers a discussion of three major cognitive parameters of linguistic structure: analyzability, compositionality, and institutionalization. We aim to demonstrate how, by using these notions, one can parameterize linguistic structure, prefabricated units included. Finally, the three parameters are combined into a "3D model".

In addition, this study relates to and capitalizes upon the concept of the *lexicogrammar continuum*, as it is understood and practiced in cognitive linguistics. The concept originates in the functional approach to language by M.A.K. Halliday (1961) but was then further developed and widely discussed by Langacker, according to whom "the lexicon, morphology, and syntax form a continuum of symbolic units serving to structure conceptual content for expressive purposes" (Langacker 1987: 35). After a few decades of inquiry, the idea continues to play a central role in his Cognitive Grammar (cf. Langacker 2016).[2]

Formulaic language can be defined as "a sequence, continuous or discontinuous, of words or other meaning elements, which is, or appears to be prefabricated: that is, stored and retrieved whole from memory at the time of use, rather than being subject to generation or analysis by the language grammar" (Wray and Perkins 2000: 1). This view of formulaic language is similar to that expressed by Fillmore et al., who claim that "an idiomatic expression or construction is something a language user could fail to know while knowing everything else in the language" (1988: 502). Seen in this light, formulaic language is a complex set of linguistic items frozen into a form with murky meaning that is difficult or impossible to unscramble from the meanings of their constituents.[3]

Because the terms *formulaic language* and *idiomatic language* may be treated as synonyms (Gibbs and Van Orden 2010; Langacker 1987; Nunberg, Sag, and Wasow 1994), we will use them interchangeably. In his discussion of formulaic expressions, Langacker notes the following:

> I refer here to the huge set of stock phrases, familiar collocations, formulaic expressions, and standard usages that can be found in any language and thoroughly permeate its use. Here is small, random sample from English: *take it for granted that*, *hold… responsible for*, *express an interest in*, *great idea*, *tough competitor*, *have a lot of class*, *I don't care*, *kill two birds with one stone*, *good to see you*, *mow the lawn*, *turn the page*, *let the cat out*, *have great respect for*, *ready to go*, *play fair*, *I'll do the best I can*, *answer the phone*, and *never want to see… again*. Or consider these examples from the [book's, J.M.] opening paragraph [...]: *fundamental requirement*, *empirical science*, *known facts*, *other things being equal*, *as if*, *theory account for… data*, *more … rather than less*, *in actual practice*, *as such*, *in the context of*, *if*

[2] In the same volume, Drożdż (2016) offers a broader survey of the notion.

[3] See also Frazer (1970) for a Generative Grammar account of idiomatic structures.

Pobrane z czasopisma New Horizons in English Studies **http://newhorizons.umcs.pl**
Data: 15/11/2026 22:48:28

> *only*, *very rudimentary*, *a matter of interpretation*, *preliminary analysis*, *deriving from*, *a set of*, *underlying assumptions*, and *object of study.*
>
> There are literally thousands of these **conventional expressions** in a given language, and knowing them is essential to speaking it well. This is why a seemingly perfect knowledge of the grammar of a language (in a narrow sense) does not guarantee fluency in it; learning its full complement of conventional expressions is probably by far the largest task involved in mastering it. (Langacker 1987: 35–36)

We would like to claim now that the group of those "thousands of conventional expressions", mentioned by Langacker, should also include modifications of stock phrases, proverbs and modifications of proverbs. Examples abound: *Once bitten, twice blessed* (< *Once bitten, twice shy*), *Crime pays – be a lawyer* (< *Crime doesn't pay*), *Without pain, you gain* (< *No pain, no gain*), *Hair today, gone tomorrow* (< *Here today, gone tomorrow*), *Life is just a bowl of cherries*; *It takes a village to raise a child*, etc. (cf. Mandziuk 2016, 2017).

It is important to realize that prefabricated linguistic chunks of language are inherent in any fluent communication. They convey ideas via lexical shortcuts and help avoid semantic overload by obviating the need for analyzing their internal structure. Thus, instead of saying *Mary went crazy as she saw the mess in the kitchen*, we may as well communicate the same message by saying that *Mary flew off the handle as she saw the mess in the kitchen.* This is so because *go crazy* is analyzable (the meaning of *go* plus the meaning of *crazy*), hence the prefab involves, from the point of view of the information process, a greater semantic overload.

At this juncture it is important to stress that cognitive linguistics rejects the modular approach to language structure advocated in generative linguistics; it also rejects the idea of categorization based on necessary and sufficient conditions. According to cognitive linguists, categorization is based on the idea of prototype in the sense of Rosch (1977) and the "family resemblance" principle advocated by Wittgenstein (1953). On this view, categories have central and peripheral members, whereby the boundaries of categories are fuzzy in that "one category merges gradually into the other" (Taylor 1989: 40). In fact, the fuzziness of the categorial boundaries is a broader concept: it pertains not only to the boundaries of categories but also the boundaries between various levels of linguistic organization, such as including phonology, morphology, and syntax. As Langacker (1987: 3) writes: "Grammar and lexicon form a continuum of lexical units".

If so, the question arises of how this continuum is structured. This is especially important in the case of prefabs and, generally, all formulaic language. In what follows we propose to analyze fossilized language by using three parameters: compositionality, analyzability, and institutionalization.

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2. Cognitive parameters of linguistic structure

2.1 Compositionality and analyzability

Ronald Langacker defines compositionality as "the degree to which the value of the whole is predictable from the values of its parts" (Langacker 1987: 448). Thus, in the case of the complex word *reader*, the use of the suffix *-er*, combined with the verbal stem *read-*, predictably points to the agentive character of the whole derivative, i.e. *reader* = 'somebody who reads'. Similarly, *worker* can be claimed to be compositional: it consists of two separate, yet meaningful units with both semantic and phonological poles [WORK-[ER]]/[work-[er]].

Compositionality should be distinguished from analyzability. Langacker defines analyzability as follows:

> The notion of analyzability is subtle. It does not refer to the intrinsic complexity of a structure [as it is the case for the compositionality parameter], but rather to [1] *a person's awareness of certain aspects of this complexity*. As the term suggests, analyzability implies some kind of [2] *analysis of a complex structure,* and thus involves [3] *cognitive events* above and beyond those that constitute the structure per se; [4] *the structure retains its intrinsic complexity* regardless of whether it is subjected to such analysis. (Langacker 1987: 457)

As an example consider the word *mother*. In contrast to e.g. *worker*,[4] which is both compositional and analyzable (since the conceptualizer can judge the contribution of the suffix *-er* to the overall meaning of *worker* to be rather high), the compositionality of *mother* is null. *Mother* is a mono-morphemic word and "the value of the whole expression" cannot be predicted from the value of its parts simply because this expression consists of only "one part". *Mother* can, however, be thought of as being minimally analyzable: the conceptualizer might think that the final syllable [ə] could function as a kind of indicator of kinship terms, along with *father*, *brother, sister*, etc. (through phonetic similarity).

It should thus be clear that compositionality and analyzability are not mutually exclusive, nor do they necessarily entail each other: a given linguistic unit may display high levels of both compositionality and analyzability, as is the case with *worker* or *reader*, or be (minimally) analyzable but totally non-compositional, as is the case of *mother*, *father*, *sister*.

In this study we will treat compositionality and analyzability as two parameters on the continuum of linguistic structure. To the third parameter, institutionalization, we turn directly below.

[4] To be precise, expressions such as *worker* and *mother* do not belong to the formulaic language units, yet they are used here for the purpose of explaining the complex notions of compositionality and analyzability. Besides, they serve as reference points for formulaic units, as discussed in the forthcoming analysis.

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Data: 15/11/2026 22:48:28

2.2 The institutionalization parameter

According to Kardela, "institutionalization is a process which affects 'novel' expressions which are 'on their way' to become integrated into the already existing inventory of words" (Kardela 2016: 84). Similarly, Brinton and Traugott (2005: 45) point out that "institutionalization refers to the spread of a usage to a community and its establishment as the norm", Leonhard Lipka (2002 [1990]: 112), in turn, perceives institutionalization as "the integration of a lexical item, with a particular form and meaning, into the existing stock of words as a generally acceptable and current lexeme".

What these views clearly emphasize is that the process of institutionalization concerns new and unfamiliar expressions which are on their way to becoming officially accepted by a given linguistic community. Being "officially accepted" and thus conventionalized to a greater or lesser extent takes us into the realm of sociolinguistics. This is how Hohenhaus (2005) discusses the theoretical importance of the concept of institutionalization (quoted also in Kardela 2016):

> The smallest setting of a speech community, the subclass just above the idiolect, is that of a couple. Here, intimacy can foster extreme idiosyncracies—however, due to that very intimacy of such a setting, robust empirical data are hard to obtain. Only very occasionally do such examples surface outside their intimate domain […], e.g. [the] highly idiosyncratic 'back formation' of a singular **shoop* from *sheep*—originally a deliberate jocular deviation, which did however become established in the couple's micro-dialect.
>
> The next larger 'community' will be that of the family or other such more or less stable small group (close work colleagues, band members, small teams of explorers on an expedition, etc., etc.). Herringer (1984: 9) mentions the phenomenon of *episodic compounds* for such small groups—a potential example he constructs is German *Mäusebibel* 'mice bible', which is useable by family members who all know about a past incident in which a bible showing teeth marks of mice (who had apparently nibbled at it) was found by the family in a barn. It is thus only on the basis of the common episodic knowledge that the compound can be institutionalized in that meaning within this family's small-group dialect. (Hohenhaus 2005: 361)

In view of the above, it becomes clear that institutionalization is a longitudinal process inextricably linked with the society, whereby cultural norms, expectations, background assumptions, and context directly affect the use of new linguistic formations.

2.3 A 2D model: compositionality and analyzability parameters

Figure 1 illustrates how a selected set of language units is located relative to the compositionality and analyzability parameters, in a 2D coordinate system. The vertical axis indicates the degree of compositionality, whereas the horizontal axis stands for analyzability. Owing to the fact that the compositionality and analyzability parameters

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Data: 15/11/2026 22:48:28

are a matter of degree, the symbolic rates of selected instances, as presented on the 2D and later on the 3D model, do not follow any strict regulations. In essence, the analyzability and compositionality parameters intend to illustrate the correlations, or even overlaps, between the variables under discussion. Note that the 2D and 3D models employ exemplary linguistic formations and thus it is an exemplary sample of phrases with no particular selection procedure adopted here.

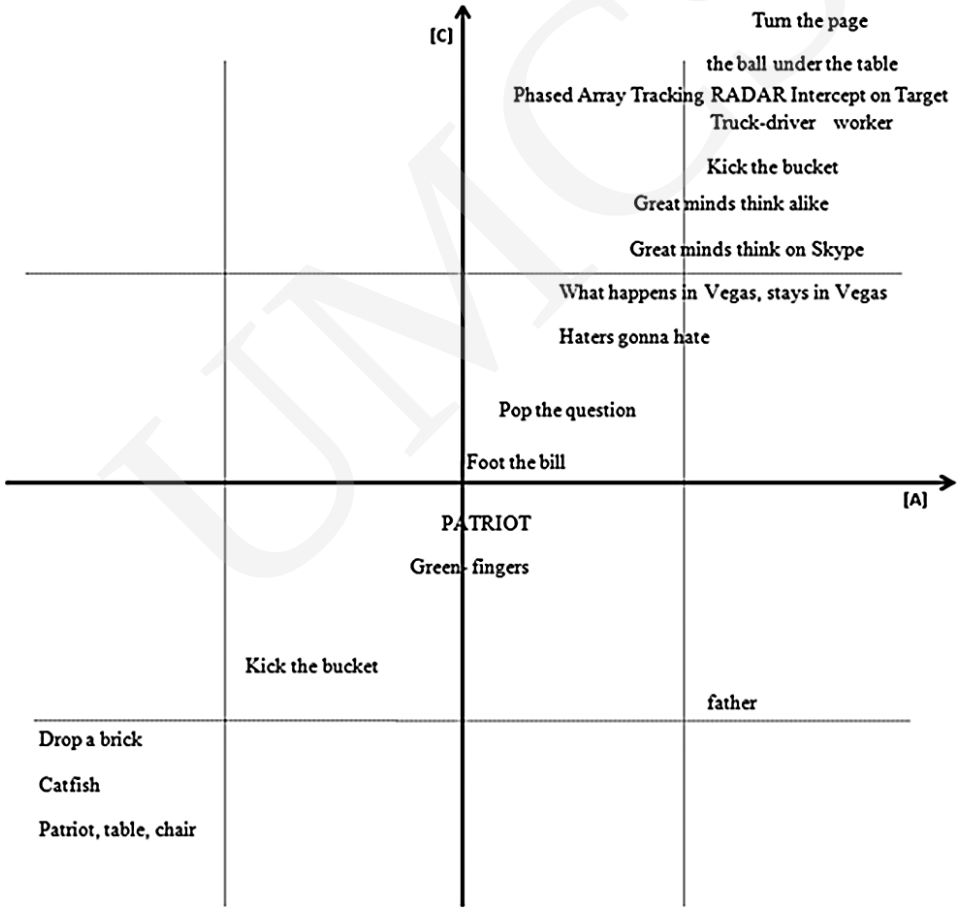


Figure 1. Compositionality and analyzability: a 2D coordinate system

At first glance, all the instances seem messily scattered along the two axes, which appears to be rather unrevealing. However, all of the examples presented here carry some linguistic motivation. Consider the word *father*. It is non-compositional, i.e. it is a monomorphemic word that cannot be divided into smaller units. This means that, in contrast to formations such as *worker*, which has a constructional

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Data: 15/11/2026 22:48:28

schema[5] of [WORK-[ER]]/[work-[er]], the expression *father* does not have a schema such as [FATH-[ER]]/[fath-[er]]. Yet, despite being non-compositional, it can, just like *mothe*r, be felt to be analyzable. We seem to be dealing here with the following regularity: the greater the degree of an expression's compositionality, the greater the degree of its analyzability.

Consider now *worker*. Drawing on what we have already established, we can come to the conclusion that *worker* is indeed compositional in that it consists of two separate meaningful units: [WORK-[ER]]/[work-[er]]. But is *worker* analyzable? We have already answered this question in the affirmative: the word is decomposable into the root *work-* and the suffix *-er*, where the root constitutes a single word, or to be more precise, an action verb. When combined with the suffix *-er*, the derivative's meaning is 'somebody who works'. In this case both the compositionality and analyzability are rather high.[6]

Next come phrasal units such as *turn the page*[7] *or the ball under the table*, which, like all sentences and expressions with regular descriptive patterns, have a high degree of compositionality (since in this case "the value of a whole is [totally] predictable from the values of its part" (Langacker 1987: 448)) and analyzability (as the conceptualizer is undoubtedly able to arrive at the correct meaning via the analysis of the expression's constituents parts).

Seen in this light, the formation *kick the bucket* appears on our 2D coordinate system twice: as a literal expression it is highly compositional and analyzable, whereas

[5] Also called *sanctioning schema* (Langacker 1987: 462). In Cognitive Grammar it pertains to the "higher-order" schema, i.e. [[stem] + [suffix]] authorizing the recurring combination pattern of the component parts, which in turn add up to the whole expression.

[6] According to an anonymous reviewer, the words *father* and *mother* seem to be analyzable like the idiom *to kick the bucket*, since, as the reviewer notes, "*father* and *mother* belong to the Old English r-declension". In conjunction with this the reviewer asks: "From whose point of view should analysability and compositionality be considered: from a linguist's or a language user's point of view?" This is a valid and important question, to which there is no definitive answer. It is clear that a trained linguist's intuition is different from that of an average language user. Further, even among native speakers there is always a possibility of contrasting views: after all, it is unrealistic to expect "the man in the street" to ascribe a degree of analyzability to forms such as *father* and *mother* based on diachronic criteria according to which these two forms belonged in the past to the Old English r-declension. Still, whereas "the man in the street" might be tempted to ascribe some degree of "functional analysability" on the basis of the "*-er*-patterns" kinship terms exhibit, it is rather unlikely that *kick the bucket* could be treated in exactly the same way by a (native) language speaker as neither lexical semantic analysability nor "functional analysability" appears to come into play in this case.

[7] Although not included in the Figure 1, the phrase *turn the page*, apart from being used mainly in its figurative sense, does not lack metaphorical meaning. As an idiomatic expression, it suggests moving forward and leaving obstacles behind. From this perspective, the level of compositionality and analyzability would be rather low. Similarly, there is a host of other phrases of that sort that combine both its literal and idiomatic senses, to mention just a few: *kick the bucket, pop the question, drop a brick* etc.

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Data: 15/11/2026 22:48:28

as an idiom meaning 'to die' it is neither compositional nor analyzable. Yet, as noted by Joan Bybee, because "an English speaker recognizes the component words, as well as their meanings and relations to one another and perhaps activates all these in the interpretation of the idiom" (Bybee 2010: 45), one might postulate some degree of analyzability for this expression as well. This is so because analyzability depends, to a large extent, on certain external considerations, such as context, situation, background knowledge, or individual assumptions. If this is true, then the question arises how the figurative meaning of an idiomatic phrase such as *kick the bucket* may be reasonably accounted for. Perhaps clues can be found in the idiom's origin. One plausible explanation for the link between the literal act of kicking the bucket and dying is that in 16th-c. England convicts sentenced to death through hanging stood on buckets; once the guards literally kicked the bucket, this caused the death of the offenders. From this perspective, it turns out that an initially non-analyzable idiom may begin to be felt to be analyzable at least to some extent.

It should be noted that there is a correlation between the compositionality and the analyzability parameters: on the whole, the greater the compositionality of a linguistic unit, the greater its analyzability. Thus, given two expressions, say, *father* and *worker*, it is *worker* that has a higher degree of analyzability because, in contrast to *father*, its meaning is decomposable into the meaning of the stem, i.e. *work-*, and the meaning of the agentive suffix *-er.*

3. A 3D model: compositionality, analyzability, and institutionalization combined

In this section we make an attempt to combine all three parameters discussed so far in what we would like to call a 3D model of linguistic structure. In conjunction with this, we have to make two observations. First, as already remarked, the higher the degree of compositionality of a linguistic unit, the higher analyzability it displays. Second, following Kardela (2016: 69), we claim that "there is a correlation between analyzability and institutionalization whereby the lower the degree of institutionalization a given lexical expression displays, the higher the degree of its analyzability tends to be".

The 3D model presented below illustrates how selected formulaic language units vary relative to one another. Note that these are only some instances selected from Figure 1; nevertheless, what they all have in common is that they appear to be proverbial expressions with various degrees of specificity. The symbolic coloured cubes on the coordinate system stand for the following samples of language use:

1. *Great minds think alike.*
2. *Great minds think on Skype.*
3. *It takes a village to raise a child.*
4. *What happens in Vegas, stays in Vegas.*

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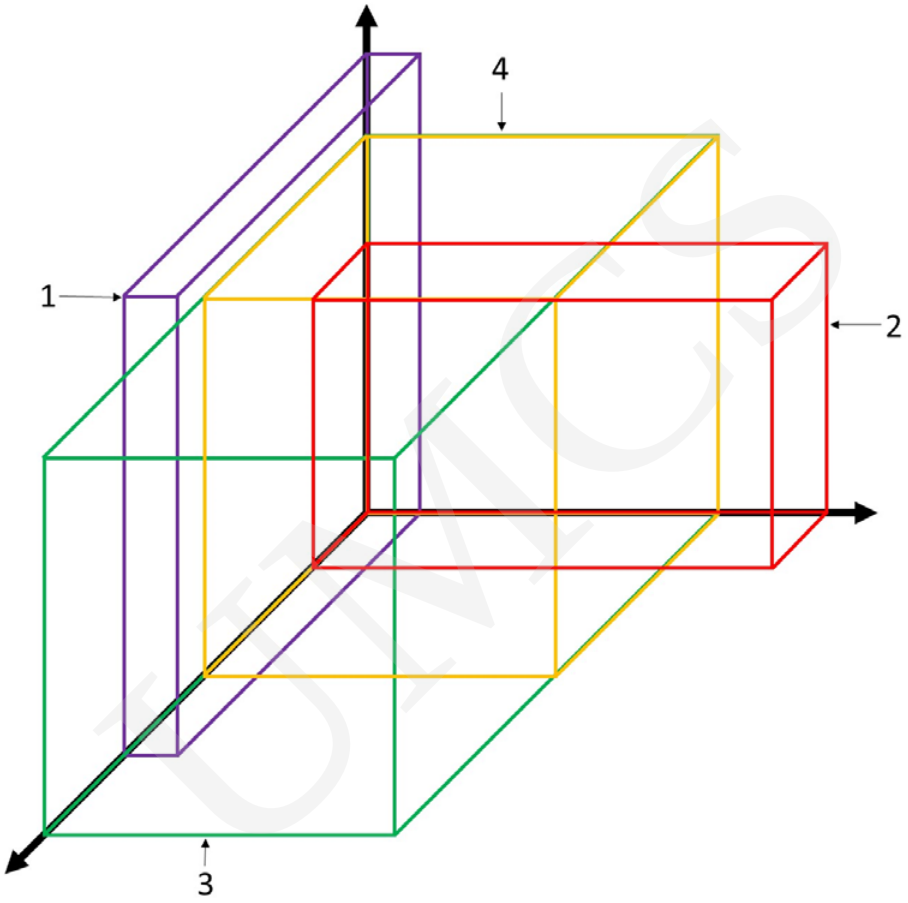


Figure 2. Compositionality, analyzability, and institutionalization: a 3D model. Compositionality – the horizontal axis; analyzability – the vertical axis; institutionalization – the diagonal axis

Figure 2 shows that all proverbial expressions differ in the degree of their compositionality, analyzability, and institutionalization. Cube 1 gives an example of the traditional, institutionalized proverb *Great minds think alike.* Other well-known proverbs of this kind include: *When the going gets tough, the tough get going*; *Too many cooks spoil the broth*; *You can't have your cake and eat it, too*,[8] etc. What all these proverbs have in common is that their degree of institutionalization is rather high since they

[8] The earliest known version of the proverb i.e. *You can't eat your cake and have it, too* switches the order of the now popular "have – eat" into "eat – have". Although the traditional form of the saying seems to be infrequent among language users, yet for some, this variation of the adage appears to be more logical and thus convincing.

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Data: 15/11/2026 22:48:28

belong to the standard language repertoire. Notice, however, what happens if, as is often the case, speakers confine themselves to actually producing only the first halves of those sayings, taking the second ones for granted. Cases in point include structures such as *When the going gets tough*,…; *Too many cooks…; A stitch in time…* etc., with the remainder of each proverb left to be filled in by the hearer. Clearly, in such cases the institutionalization of such structures is high, as they are well-entrenched prefabricated chunks of language with recognisable structures. Being "well known expressions", the analyzability of their meaning seems redundant and thus the analyzability parameter is rather low. As far as compositionality is concerned, the majority of proverbs score high for this parameter because all their component parts contribute to the overall meaning. In short: because their institutionalization is high, they have, as familiar expressions, a lower degree of analyzability.

Consider now cubes 3 and 4, which represent the modern proverbs *It takes a village to raise a child* and *What happens in Vegas, stays in Vegas*, respectively. Figure 2 shows that both proverbs have different parameter rates, as they exhibit different semantic, syntactic, and social qualities. Thanks to the Google Trends platform,[9] we have established the degrees of their institutionalization, which, on the whole, is rather minimal. This being so, their degree of analyzability is high, as, generally, the speakers have to establish what conventionalized structures these sayings are related to and on the basis of the analysis discover their meanings. But what is the degree of compositionality of such sayings? Just like all proverbial expressions, they exhibit high or at least mid-high compositionality rates, and new proverbs are no exception. For illustration see Figure 2, cubes 3 and 4 in particular.

Interestingly, the cube that relates to the modified proverb *Great minds think on Skype* seems to be different from the rest. This category of expressions contains proverbial modifications such as *Practice makes progress*; *Without pain you gain*; *When there is a will, there is a war etc.* It should be clear that, seen from the point of view of the institutionalization axis, these novel proverbs are anything but well-established language units. Yet, they are massively used nowadays in advertising slogans, catchy newspaper headlines, motivational quotes, etc. (cf. Mandziuk 2016). Apparently, those modified proverbs are well understood on the basis of their constituents, which means that their compositionality is relatively high. Their analyzability, however, appears to be more problematic. Given that low institutionalization parameter necessarily involves high analyzability levels (cf. Kardela 2016), this means that whenever conceptualizers encounter unknown linguistic expressions, they invest a great deal of effort into understanding the new formation. This, in turn, results in high analyzability level.

[9] https://trends.google.com/trends/ Google Trends platform aims at keeping track of the newest language trends and innovations. This platform enables finding, and most importantly comparing, the dissemination of a given search-item. It provides insight as to when the term first appeared and in what country it is most frequently used. Thus, the platform can provide a solution for locating new language formations on the institutionalization cline relative to the extent of their dissemination.

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Data: 15/11/2026 22:48:28

Over time, as the institutionalization process unfolds and the units become more accepted, the process of analyzing appears to be less strenuous for the conceptualizer. If so, all novel and still unknown phrases should be judged to display very high analyzability rates, as illustrated by cube 2 in Figure 2.

In sum, the 3D model allows us to correlate three distinct but related parameters of linguistic structure: compositionality, analyzability, and institutionalization.

4. Conclusion

The aim of this study was to address the question of formulaic language within the framework of Cognitive Grammar. Several definitions of formulaic units were first considered (Langacker 1987; Fillmore et al. 1988; Nunberg et al. 1994; Wray and Perkins 2000; Gibbs and van Orden 2010). The subsequent sections focused on the parameterization of formulaic expressions. Adopting the model of Cognitive Grammar as proposed and developed by Ronald Langacker (1987, 1991, 2008), the parameters of compositionality, analyzability, and institutionalization were applied to selected proverbs and their modifications, plotting the parameter values for these expressions, in diagrammatic form, with the aid of 2-D and 3-D models.

In so doing we were guided by Kardela's observation concerning the correlation between analyzability and institutionalization on the one hand, whereby "the lower the degree of institutionalization a given lexical expression displays, the higher the degree of its analyzability tends to be", and between compositionality and analyzability on the other hand, in which case, on the whole, "the greater the degree of compositionality an expression displays, the greater the degree of analyzability it should be judged to have" (Kardela 2016: 69). Unfortunately, no generalization can be made regarding the correlation between compositionality and institutionalization, as these two parameters appear to be totally unrelated and to function irrespective of each other.

Overall, in the present study, an attempt was made to propose analytical methods so as to visualize the interplay and possible interdependencies between the cognitive parameters in question. Methodologically, this article confirms Kardela's (2016) findings (see above); moreover, taking a step further, it shows how these theoretical assumptions can be applied in practice (see the 3D model, Figure 2). However, with the small sample size, caution as to final conclusions is definitely advised, since the findings may not be transferable (certainly not indiscriminately) to other kinds of linguistic units.

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