

# Arbitrary structure, cognitive grammar, and the *partes orationis*

## A study in polish paradigms

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This usage-based study tests the explanatory power of an iconically motivated theory of lexical class. The principle that basic level grammatical categories are motivated by our direct perceptual experience is an integral part of Cognitive Grammar (Langacker 1987, Talmy 2000). However, recent research on English, Dutch, and German (Glynn 2006, 2007) has revealed mixed results in the application of this theory, suggesting that its descriptive power may be restricted to a very abstract level of semantic structure. This investigation focuses on the above question, looking at the class-lexeme productivity of a range of relational classes, such as adverbs and adjectives, in a more morphologically rich language. The lexical field is that of ‘rain’-‘snow’ for the West Slavic language Polish. This perceptually based concept should offer a best-case scenario for examining the lexical compositionality with an iconically motivated grammatical category. Despite this, the results show no particular evidence for iconic motivation, throwing weight behind the position that iconic motivation in grammar is at best an abstract tendency with little semantic impact.

### 9.1 Introduction: Iconic motivation in cognitive grammar

Cognitive Grammar holds that all formal structure is motivated.<sup>1</sup> What is more, it argues that the basis of grammar is perceptually motivated, that is, fundamentally iconic. A *pars orationis* is argued to be one such iconically motivated conceptual category. In this study, we consider the combinatory possibilities of a lexical concept and various *partes orationis*. Employing a usage-based approach and found data, we examine the productivity of class derivation in the Polish lexical field of

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RAIN – SNOW. We ask if one may account for the irregularities in the grammatical structure with such an iconically motivated grammar.

This study builds on previous work presented in Glynn (2005, 2006, forthcoming), which examines the iconic tenets of Cognitive Grammar. These studies show that although the theory, as proposed by Langacker (1987) and Talmy (2000), does indeed help explain much of the complexity involved in this well-known issue, it fails to systematically account for the vagaries that result from the interaction of closed class and open class semantics. It is found that although the rich semantic information associated with lexical concepts combines with lexical classes in a reasonably predictable manner, at times, the complexity of lexical semantics overrides the more abstract semantics of lexical class. In such instances, the integration, or semantic compositionality, of a lexical concept and a grammatical category is not felicitous because of lexical semantic features. This is counter to the position of Goldberg (1995), Talmy (2000), and Michaelis and Ruppenhofer (2001), who argue that grammatical semantics typically coerce lexical semantics in compositional structure. However, the counter examples in Glynn (2006, forthcoming) are still open to alternative explanations where questions such as salience and frequency can be evoked to explain the exceptions to the predictive power of the grammatical model. In this study, we examine examples for which there seem to be no synchronic explanations for the constraints on the possibility of class-lexeme combinations, or in Langacker's (1987) terms semantic integration. In other words, we see what appear to be purely arbitrary grammatical constraints.

Issues such as lexical licensing and integration-compositionality have recently come to the fore in Cognitive Linguistics (Glynn 2002, 2004a, Michaelis 2003). Indeed, many within the research community, for example Baayen (2003), argue that a radically different approach to such questions must be taken and the idea of probability driven grammars is gaining currency. Although such a step may eventually be informative in language description, it certainly cannot explain creative language use and so theories that attempt to predict grammaticality will always have a place in linguistics. Recent research more than adequately shows the importance of iconicity in grammatical semantics. However, one must be careful not to rely too heavily on what are very abstract notional structures at a close analytical level. We see below the limitations of doing so.

In Section 1, we examine the position of Cognitive Grammar and why iconic motivation is basic to its explanation of lexical class. We then turn to a simple way of testing this hypothesis of Cognitive Grammar. In this Section 2, a lexical field is identified as well as a set of iconically motivated grammatical categories. A perceptually based lexical concept is chosen to offer a best-case scenario for the application of the cognitive theory. Section 3 examines the productivity of the combinatory possibilities of the identified lexemes and lexical classes. Important

limitations to the explanatory power of Cognitive Grammar are identified. Section 4 summarises the investigation and asks questions concerning the possibility of a grammar motivated entirely by our experience of the world.

### 9.1.1 The meaning of a lexical class

The existence, and indeed pervasiveness, of iconic motivation in language has been long established in the post-structural and post-formalist schools of linguistic thought (Haiman 1980, Fischer 2004, Van Langendonck 2007, etc.) and we may assume the importance of this phenomenon in any empirical description of language. In general terms, Cognitive Linguistics evokes a model of language that is necessarily and inherently motivated: all form is symbolic. This entails that the use of any formal structure is motivated by its meaning. Such symbolic motivation should not be confused with iconic motivation. However, Cognitive Grammar walks a fine line on this point, positing perceptually motivated symbolic structure. In short, this can be seen as a kind of iconic symbolism.

Normally, the reference of a sign is iconically motivated only if there is a perceptual relationship between the sign and the perceived *Lebenswelt*. How this is related to a grammatical category may not be entirely obvious. As Coseriu (2004 [1972]) rightly points out, a lexical class and a *pars orationis*, or part-of-speech, are two separate phenomena. A lexical class is a category of forms, grouped by formal characteristics, where a *pars orationis* is a semantic or functional category that can be used to group various forms. Although Coseriu's point seems indisputable, the isomorphic motivation that is the basis of the form-meaning pair in Cognitive Grammar, effectively conflates these two different phenomena.<sup>2</sup> By linking the form and the meaning in an isomorphic manner, the lexical class and the *pars orationis* become merely two different perspectives on the same linguistic unit of a given language. The implications of this for the study of iconicity in grammar are important.

In examples such as word order iconicity, of the type *veni, vidi, vici*, it is the form that reflects the perceived world; the formal and tangible order of words. In such instances, the iconic motivation is not only inarguable, it is clearly testable. However, diagrammatic iconicity becomes more difficult to test when we do not speak about a relation between form and reality, but between meaning and reality. This kind of iconicity is argued to be the basis of many grammatical concepts in Cognitive Grammar. For example, the lexical class of noun is not iconic, but the *pars orationis* that denotes 'thing' is argued to be universal due to its basic perceptual value. Langacker (1987) argues that 'things', 'relations', and 'processes' are grammatical concepts that are a direct result of universal experience of the world

2. Kleiber (1993) demonstrates unequivocally the isomorphic tenets of Cognitive Grammar.

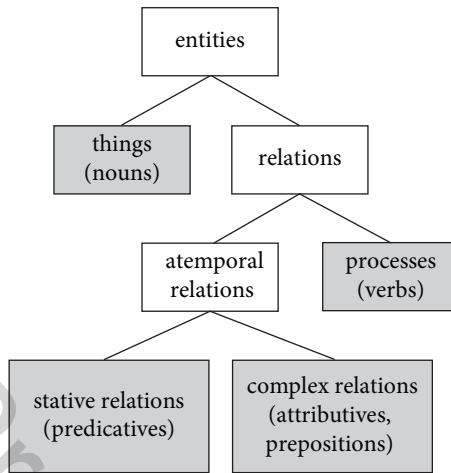


Figure 1. Lexical classes and perceptual categories<sup>3</sup>

and possess an isomorphic relationship with the corresponding lexical classes. In this theory, a basic distinction is held between things and relations. Here, things correspond to nouns and relations divide into temporal and atemporal relations. This distinction, in turn, distinguishes verbal from adjectival, adverbial, and prepositional relations.<sup>4</sup> It is this experiential basis that determines the grammaticality of the forms to which these concepts are ascribed.

In a recent study that challenges the iconic theory of summary and sequential scanning (Broccias and Hollman 2007), the basic lexical classes that designate the perceptual categories are clearly summarised. In Figure 1, the shaded boxes represent perceptual categories that correspond to lexical classes.

In Cognitive Grammar, one speaks of conceptual construal and grammatical profiling. Conceptual construal is the cognitive ability to take a concept and represent it in such a light that certain properties of that concept are foregrounded or backgrounded. One common linguistic structure enabling this is termed grammatical profiling. If we are talking about *partes orationis*, this is the possibility for a language to profile, or represent, different facets of a lexical concept as a noun or a verb or any part-of-speech. It is argued that the integration of the meaning of the *pars orationis* and the lexical concept changes the meaning of the word by highlighting thing-nominal or process-verbal properties of that concept. This semantic change, between what Aristotle termed paronyms, seems self-evident. Coseriu

3. Adapted from Broccias and Hollman (2007).

4. More specific references to his discussion on such matters include Langacker (1987, 189, 203ff.; 1990, 66ff.; 1991, 23ff.). See also Talmy (2000, 23).

(2001 [1966]) succinctly identifies the issue at hand. In describing a lexical field, he stresses that it must capture the structure between fields and also within fields:

[N]ous visons [...] à la fonction qui distingue le mot *venir* de *dormir*, *oublier*, *chanter* etc. (et aussi de *sommeil*, *oubli*, *chant*, etc.) et qui le fait entrer dans un “champ” où il s’oppose, par exemple, à *marcher*, *aller*, *partir*, *sortir*, *entrer* (et, dans un certain sens, aussi à *marche*, *allée*, *départ*, *sortie*, *entrée*) et non pas des fonctions telles que “présent” “infinitif”, “intransitif”. E. Coseriu (2001 [1966], 216ff.)

The problems begin when we take into account two of the basic tenets of Cognitive Linguistics. Firstly, the meaning of the *pars orationis* is perceptually motivated by our direct experience of the *Lebenswelt*. Or, as stressed above, the conceptual category is an iconic reflection of a perceived real-world category. Secondly, there is an isomorphic relationship between the meaning of the *pars orationis* and the lexical class. This gives us an iconic motivation for a grammatical category and its conceptual content that is not strictly, imagically or diagrammatically, related to the *Lebenswelt*. Lakoff explains the rationale for this:

[D]’un point de vue neuronale, il y a des parties du cerveau qui sont plus proches des inputs corporels et d’autres plus éloignées. Ce fait correspond à un autre fait [...] les concepts abstraits sont conceptualisés par le biais de concepts plus proches de l’expérience corporelle, c’est-à-dire, l’expérience sensible... Lakoff (1997, 165)

It is thus that, in Cognitive Grammar, it is argued that the *partes orationis* are natural categories, based in our experience. It is this stance that renders such grammatical categories iconically motivated. Glynn (2006, forthcoming) has demonstrated that, although this may be the case, there is clear evidence that this motivation is of a very abstract and ‘weak’ nature and can be easily overridden by semantic, formal, and extralinguistic concerns. In these studies, it was shown that it was not possible to combine, or integrate, given lexical concepts with certain lexical classes where one would expect it to be possible, assuming an iconically defined *pars orationis*. In such instances, frequency and/or salience of the lexical concepts in question was evoked to explain such irregularities. We need to find examples of this kind of constraint where no such explanations are available. If so, we can convincingly demonstrate that although the grammatical concept in question may be fundamentally iconic, the semantic schema is of such an abstract nature that it serves as little more than a theoretical backdrop to the intricacies of language description.

### 9.1.2 Frequency-entrenchment and salience-construal

Entrenchment is a cornerstone of Cognitive Grammar. With no external linguistic system and no internal linguistic competence, entrenchment serves as a theoretical construct designed to offer stability to the object of study. A form-meaning pair is said to be entrenched, and therefore part of the linguistic structure, when it has become automated for speakers. Generalisation about language structure across a speech community is simply a generalisation across the knowledge of the speakers that make up that community. It is argued that entrenchment is principally a result of frequency. This means that we can use relative frequencies of occurrence as an indirect method to make inductions about language structure.

This position, on the importance of frequency, is maintained by Bybee (2007, 315). However, she reminds us of the importance of convention and salience: “[m]y hypothesis is that semantics, and, to some extent, pragmatics and our experience of the world, will determine which elements tend to occur together [...] but its repetition is the glue that binds the constituents together”. Her reference to one’s experience of the world, reminds us that entrenchment is not merely frequency. Indeed as any language learner will know, concrete nouns are learnt before abstract verbs, perhaps not regardless of frequency of exposure, although certainly relative to frequency of exposure. The found data that we use in the case study below can offer us information about the frequency of occurrence, but not the salience of the concept in question. For this second question, we rely on the intuition of native speakers. Let us investigate how both salience and frequency interact with a set of lexemes designating a perceptually salient concept, RAIN-SNOW across the various *partes orationis* in Polish.

### 9.2 Polish ‘rain’ and ‘snow’. A lexical field and its parts-of-speech

In order to test the hypothesis that grammatical categories such as lexical class are motivated by our perceptual experience, we employ lexical concepts that denote clear perceptual referents. For these reasons, the vocabulary of precipitation offers a rich domain for investigation. Although the exact difference between different types of rain and snow is obviously beyond the knowledge of most speakers, its

place in our vocabulary as a perceptually determined lexical field is indisputable.<sup>5</sup> By choosing a simple perceptually based concept, we concern ourselves with a best-case scenario for testing the iconic hypothesis for lexical class.

### 9.2.1 The lexical field

We consider 20 lexemes and 14 grammatical categories. The lexemes were found using a combination of traditional lexica and thesauri as well as online resources. The field is not intended to be exhaustive, merely sufficiently broad to search for irregularities in lexical grammatical combinations. The lexemes include 5 words for rain, 3 words for snow, 6 words for snowstorm, 3 words for drizzle, and the words for mist or fog, hail, and storm. Table 1 presents the items in question and their glosses in English. The source domain for figurative words is offered and the nominal or verbal root of the lexical category is indicated.

Table 1. Lexical field of ‘rain’-‘snow’ in Polish

lexeme	class	gloss		lexeme	class	gloss	source
deszcz	noun	rain	lit.	śnieg	noun	snow	
padać	verb	rain	fall	prószyć	verb	powdery snow	sprinkle powder
zacinać	verb	deluge	cut	sypać	verb	gritty snow	sprinkle grit
lać	verb	deluge	gush	zamieć	noun	snowstorm	sweep (zamiatać)
kropić	verb	spitting	drip	zawieja	noun	snowstorm	blow (wiać)
mżawka/ mżyć	noun/ verb	serein	mizzle	zawierucha	noun	snowstorm	be lost (zawieruszyć się)
dżdżawka/ dżdżyć	noun / verb	drizzle	drizzle	zadymka	noun	snowstorm	zadyma- commotion
siąpić	verb	drizzle	drizzle	kurzawa	noun	snowstorm	billow (kurzyć)
mgła/ mglić	noun/ verb	mist / fog		kurniawa	noun	snowstorm	mist/fog
grad	noun	hail	grud- clod	burza	noun	storm	destroy (burzyć)

5. There exists an aggregated system of classifying different precipitation types. The system, METAR (Météorologique Aviation Régulière), breaks down precipitation in three types, liquid, freezing, and frozen precipitation. By way of interest, this is the list of precipitation types from the most liquid to the most solid identified together with their METAR code: drizzle (DZ), rain (RA), freezing drizzle (FZDZ), freezing rain (FZRA), snow (SN), snow pellets (SHGS), snow grains (SG), ice pellets (PL), hail (SHGR), graupel (GS), ice crystals (IC).

Noticeable lacunas include lexemes for English *sleet* and German *Graupel*, which are expressed by *deszcz ze śniegiem*, *deszcz ze gradem*, *śnieg ze deszczem* ('rain with snow', 'rain with hail', 'snow with rain') and *krupa*, *krupnik*, *zimowy grad* ('buckwheat', 'buckwheat soup', 'wintry hail') respectively. The latter expressions for 'Graupel' are completely lexicalised, but due to the strong figurativity on the one hand and the compound nature on the other, we do not include these items since they necessarily resist inflection. Also noteworthy is the fact that there exists no verbal form for 'hail', only the nominal *grad*. Furthermore, Polish has no lexical distinction between the English *mist*, *fog*, *pea soup*, *Scotch-mist* and *haar*, the Dutch *nevel* and *mist*, or the Russian *туман* (*mist*) and *мгла* (*fog*).<sup>6</sup> The Polish *mgła* covers this concept with a single term not unlike German *Nebel*. For 'snow', and especially 'snowstorm', we see a great amount of onomasiological variation. However, it should be noted that two of the snowstorm items are typical of a specific region, the mountains of the south. These terms *kurzawa* and *kurniawa* are often unknown to speakers and when known are considered marked and dialectical in a similar way that *haar* is in English. Two final terms not considered in the study are *kapuśniaczek* and *kapuśniak*, nominals for drizzle, which literally designate 'cabbage soup'. This kind of figurative item cannot be profiled in any other class. The Polish word *burza* 'storm' is added in order to compare its behaviour with the perceptually similar snowstorm.

It is interesting to note that the Polish verbs for 'heavy rain' contrast the Germanic tendency for nominal profilings such as *deluge*, *downpour*, *cloudburst*, *driving rain*, *buffeting rain*, *Platzregen*, *Dauerregen*, and *Schlagregen*. In Polish, note that all the terms are verbal. The lexical diversity is also in contrast to the Russian where only one non-compound item is available *ливень*. However, the lexical richness for snowstorm-blizzard is similar to Russian, which also possesses a wide range of often cognate words, for example, *вьюга*, *метель*, *метелица*, *буран*, *снегопад*, and *пурга*.

It should be noted that the exact difference between the various phenomena is difficult to gauge. For example, few speakers are sure and less would agree over the exact difference between *drizzle*, *mizzle*, *serein*, *Scotch mist*, and *haar*, or between *miezeren*, *motregen*, *druilen*, and *stofregen* in Dutch. The Indo-European root of many of these words, \*(o)meigh-, seems to have been productive and much of the variation is likely to be regional rather than semantic.

6. There exists a cognate for the Russian *туман*, but it is restricted to a non-precipitation term, though it can be used as an attributive adjective to describe powdery snow, *tumany śniegu*.



### 9.2.2 The lexical classes and grammatical categories

In order for the reader less familiar with Polish grammar to appreciate the morphological richness of the language, we can briefly trace some of its characteristics. Across three declensions, nominals possess three genders, two numbers, and seven cases. We restrict the study to nominative forms assuming that these are the most common. Deverbials are complex and productive in Polish. There are two types of deverbial in Polish, the ‘back-formation’ deverbial and the derived deverbial. The first form is obtained by taking the infinitive of the verb and ‘cutting’ off the infinite suffix. The second form is produced by suffixation. Depending on the conjugation and various phonological rules, there are three suffixes, *-anie*, *-enie*, *-cie*. We consider the second of these forms. Adverbs are derived from qualitative adjectives and have no inflections save comparative and superlative forms, which we do not consider.

Polish possesses the usual Slavic perfective-imperfective distinction that interacts with a complex array of preverbs. Verbs possess three tenses in the imperfective and two tenses in the perfective as well as four morphological moods, the indicative, imperative, conditional, and optative. However, we restrict the study to the 3<sup>rd</sup> person indicative. There exist eighteen prefixes that perfectivise the verb. The study only considers six of the most likely candidates: *u-*, *na-*, *za-*, *pod-*, *w(y)-* and *prze-*. To give the reader a general idea of the less figurative uses of these prefixes, we can gloss them with ‘by’, ‘on’, ‘behind’, ‘beneath’, ‘in’, and ‘before’ respectively. It must be stressed that this literal sense rarely helps in understanding the perfective use of the verb, which is often opaquely related to the imperfective form. In this sense, the use is similar to the verb particle construction in Germanic. There are three voices, where the reflexive form is typically considered a voice. We ignore this latter form, though occasionally include the passive, since it is only in the passive voice that some verbs take a RAIN-SNOW reading.

In Slavic languages, there is a rich system of adjectives, adverbs, and participles. Not all possible forms and derivations are considered and only the nominative singular of the adjectives is tested. This is for the practical reason of maintaining a certain degree of simplicity. The forms are explained in the table below, but two important omissions should be mentioned. The participle formation interacts in a reasonably complex way with the passive/active and perfective/imperfective forms. The study is restricted to the active present adjectival gerund and the forms derived from this grammatical category. Lastly, although there is a range of augmentatives and diminutives in Polish, we only consider one augmentative systematically. However, when diminutives are lexicalised, they are also considered. Table 2 summarises the grammatical categories that are examined in the study.

Table 2. Grammatical categories in Polish

Class	Example
Noun	<i>śnieg</i> (only nominative checked)
Verb Imperf.	Infinitive, 3rd pers. pres. indic., 3rd pers. past indic., 3rd pers. future indic.
Verb Perfect.	<i>u-, na-, za-, pod-, w(y)-, prze-</i> , 3rd pers. past indic, 3rd pers. future indic.
Adjectival Gerund	<i>sypiący</i> (relational replacing relative clause, derived from verb)
Adverbial Participle 1	<i>siąpiąco</i> (relational describing action, derived from adjective)
Adverbial Participle 2	<i>zacinając</i> (relational replacing adverbial clause, derived from adjectival gerund)
Substantive Deverbial	<i>sypanie</i> (nominal profiling, derived from verb)
Adjective 1	<i>mglisty</i>
Adjective 2	<i>burzowy</i>
Adverb 1	<i>mgliście</i>
Adverb 2	<i>gradowo</i>
Augmentative	<i>śnieżyca</i>

These grammatical categories are all argued to be symbolic form-meaning pairs in Cognitive Linguistics. More importantly, it is argued that such categories are symbolic representations of perceptual categories, isomorphically linked to our experience of the world. This iconic relationship is not held to be absolute, but to be the basis of the semantic category that these forms represent. We can suppose that if this is the case, then this will be evident, to at least a reasonable degree, in the way these forms combine with lexical concepts. Section 3 tests to see if this is indeed the case.

### 9.3 Class-lexeme productivity. Iconic motivation or arbitrary grammar

We can now combine the items of the lexical field with the predetermined grammatical categories. Since we are looking for the limits of creativity, conventional corpora will not suffice. Instead we employ the Google Usenet archive and the World Wide Web. Although using the Internet as a corpus comes with many pitfalls, its sheer size and range of registers represents a perfect medium for this kind of investigation. The procedure is simple: for each of the lexical categories in question, the theoretically possible form is determined using grammars and the knowledge of native speakers. In many instances, it is simply not possible, due to phonological-morphological reasons, to combine a lexical root with a given

grammatical form. Where it is possible to combine a lexeme and a grammatical category, then its various inflections are derived as noted in Table 2. Each of these forms for each of these terms is then queried with the Google search engine. Based on the search results and using commercial web-crawling technology, the first 1000 occurrences for both the Usenet archives and the Word Wide Web are collected and compiled to form a large dataset. Using concordancing programmes, the items can then be searched and examined. For all instances, retrievals are checked for semantic relevance. In many cases, seeding in Google is needed to bias the searches to the relevant topic. This helps reduce the amount of non-relevant occurrences considerably. However, each form must be carefully checked for semantic relevance. In many instances, less than 2000 occurrences are retrieved. In such cases, the data are examined carefully with the aid of native speakers. When there are less than 200 semantically relevant examples, the number of acceptable examples is counted.

Table 3 presents the results of this investigation. The forms tested were derived by consulting traditional grammars but also by asking native speakers to derive imaginable forms based on their personal knowledge. By not only relying on traditional grammars but also speaker intuitions about creative possibilities, we may have a better chance of revealing iconic effects. A wide range of native speakers were consulted from urban and rural areas as well of different ages and educational backgrounds. In the table, an asterisk \* indicates an unattested form. Given the size and diversity of the data source, we can be sure this represents a non-conventional form-meaning pair, if indeed it is possible at all. A hash # is used to indicate that the form is found in large numbers, but in non-relevant uses. In these cases, it is not possible to be sure that there are no semantically relevant examples because the numbers of non-relevant examples are too high to complete exhaustive examination. However in such cases, it is unlikely such forms are used to denote precipitation. Interrogation marks are used to indicate rare usage. Two interrogation marks “??” indicate less than 5 occurrences and one “?” indicates less than 50. Although using the Internet as a data source is often criticised because it appears that ‘someone, somewhere, has said almost anything’, this is a non-valid criticism for two reasons. Firstly, this should actually be considered a positive criterion for the use of this medium, since it accurately represents the chaotic and dynamic nature of language. Secondly, in a theory of language such as Cognitive Linguistics where there is no *langue* or competence, only degrees of conventionalisation and entrenchment, this is precisely the kind of data we need. Relative frequency, stretching from literally hundreds of millions of occurrences through to tens of examples is precisely the kind of data upon which usage-based approaches to language should base their research. Of course, this cannot replace the importance of native speaker judgments in determining what is ‘possible’ in a given language since no corpus can provide negative evidence. However, it is precisely in this

context that having extremely large quantities of naturally occurring language that corpus research can offer the best generalisations about language.

Nevertheless, the Internet is not a reliable corpus and so the data are all checked with a range of native speakers. This is especially important for the rare uses. For the regional forms, two informants from the southern mountainous regions helped in verifying these examples. However, due to the limited number of speakers of these varieties, the frequency results become less reliable and are not directly comparable to the less regionally specific terms a basis of two informants is not very convincing.

Table 3 reveals a wide range of possible form-meaning pairs for investigation. We focus on the three areas highlighted in different shades of grey. In these three 'parts', we see unusual lexical grammatical combinatory possibilities. In other words, we see words that have similar meaning, combining with grammatical categories in what seems to be an arbitrary fashion. If the grammatical categories are semantically motivated and this motivation is based in our perception of the 'real-world', then there should be perceptually based explanations for these irregularities. We can firstly consider the adverbial participles and the adjectival gerund for the three terms denoting drizzle.

Table 4 presents the three Polish items denoting drizzle, mizzle, or light rain. It also includes the term for mist for purposes of contrast. The first item, *mżyć* is quite common and refers to light drizzle, perhaps similar to the English *serein*, though more commonly used. Although less common, *dżdżyć* is current in standard Polish and also refers to light drizzle. Importantly, in derived forms, Polish speakers consider it 'quite a mouthful'. Obviously, this may affect productivity in certain classes. The third term, *siąpić*, is the most common term for the phenomenon and probably serves as a hyperonym for the other two terms. The fourth item, *mglić*, denotes 'mist' which behaves differently in perceptual terms since it floats rather than falls. Nevertheless, it is a basic RAIN-SNOW term and perceptually comparable. In Table 4, we see the most common word, *siąpić*, is productive in all three of the grammatical categories in question. Examples (1) – (3) are typical of the usage.

- (1) a. Pogoda, na którą tak bardzo liczyłam dała się nam we znaki **siąpiąc** i lejąc na przemian, chociaż było kilka słonecznych...  
 'The weather, on which I counted so much, really pissed us off, drizzling and pouring down, one after the other, even though there were few sunny moments...'
- b. Nawet niebo żegnało nas pochmurnie, **siąpiąc** chwilami deszczem.  
 'Even the sky said goodbye to us being gloomy, from time to time drizzling with rain.'

- (2) a. Padał deszcz gruby i drobny, z gradem i ze śniegiem, ulewnie i siąpiąco, ale niemal nieprzerwanie, aż do końca wyprawy.  
‘Heavy and light rain was falling, with hail and snow, rainstormy and drizzly, but non-stop, till the end of the trip.’
- b. U mnie dzisiaj bardzo pochmurno i siąpiąco, a przydał by się porządny deszcz bo...  
‘At my place, it’s cloudy and drizzly, and we need some serious rain, because...’
- (3) a. Siąpiący deszcz i chłodny sobotni wieczór sprawiły, że przed sceną w parku Planty, gdzie odbywał się koncert trzech tenorów...  
‘Drizzly rain and a cold on Saturday evening caused that [empty crowd] in front of the scene in Planty Park, where the 3 tenors...’
- b. Dzień był paskudny, wręcz parszywy – zimno, siąpiący deszczyk zmieniający się w ulewę.  
‘The day was awful, really lousy – cold, drizzly rain changing into pouring rain.’

Examples (1) to (3) show how such a lexical concept readily combines with these grammatical categories: serving both predicative and attributive roles. This contrasts completely with the findings for the *dżdżyć*. This term was found to be not at all productive in any of the categories. No instances of *\*dżdżaco* were found and *\*dżdżąc* revealed only a couple of instances of word listings, where various online grammars or dictionaries listed theoretically possible forms. The term *dżdżący* revealed two good examples, suggesting that this is perhaps possible given a context sufficiently specific. Although this is in stark contrast to *siąpić*, we may suppose this is due to phonological reasons. Several speakers, when questioned on the forms, commented on the difficulty in pronouncing such derivations. Although it is not surprising that phonological concerns can limit productivity, this very realistic and natural part of language is inadequately accounted for in Cognitive Grammar. Any theory of lexical class, motivated (iconically or not), must recognise that there are phonological constraints on language. Let us now consider the derivations for *mżyć*. The found data follow the predictions of native speaker judgements, that two of the derivations are perfectly natural but that the first adverbial participle, *mżąc*, is impossible. For this form, only two examples of word listing were found. Examples (4) and (5) show how naturally it is used in the other forms.

- (4) a. A ze jest dość pochmurno i mżąco, no to cóż jestem nieobecny.:)  
‘And because it is rather cloudy and drizzly, well, I’m not really with it:)’

Table 3.

Lexeme	Gloss	Noun	Verb imperfective	Verb perfective	Verb perfective	Substantive Deverbal
deszcz	rain n.	deszcz	deszczyc	*nadeszczyc	??zadeszczyc	??deszczenie –
padać	rain v. (fall)	–	padać	#upaść/ #upadać	napadać	padanie/ #upadanie/ #upadnie
upadający	–	–	–	–	–	–
zacinąć	rain, buffeting/ squalling v. (cut)	#zacinacz / *zacinawa	zacinąć	*zaciąć	#nacinać	zacinanie/ –
lać	rain deluge/ downpour v. (gush)	ulewa	lać	#nalać	#zalać	lanie/ *nalewanie
kropić	rain, spitting v.	–	kropić	nakropić	zakropić	kropienie /#zakropienie
śnieg	snow 1 n.	śnieg	śnieżyć	naśnieżyć	zaśnieżyć	śnieżenie/ #zaśnieżanie
prószyć	snow 2 v. (sprinkle power)	proszek(#)	prószyć	naprószyć	#zaprószyć	prószenie/ #zaprószanie/ ??naprószanie
sypać	snow 3 v. (sprinkle grit)	–	sypać	nasypać	Zasypać	sypanie/ zasypywanie/ #nasypywanie
zamieć	blizzard 1 n.	zamieć	*#zamiecać	–	–	zamiecanie /–
zawieja	blizzard 2 n.	zawieja	*zawiejować	–	–	*zawiejanie /–
zawierucha	blizzard 3 n.	zawierucha	#zawieruszyć	–	–	#zawieruszanie / –
zadymka (zadyma)	blizzard 4 n.	zadymka	#zadymiać	–	–	zadymianie /–
kurniawa	blizzard 5 n.	kurniawa	*kurnić	*zakurnić	–	*kurnienie
kurzawa	blizzard 6 n. (dust)	kurzawa	kurzyć	#nakurzyć	#zakurzyć	#kurzenie
mżawka/ mżyć	light drizzle 1 n. / v.	mżawka	mżyć	–	*zamżyć	mżenie
dżdżyć / dżdżawka (dżdża, dżdża)	drizzle 2 v. / n.	dżdżawka, dżdża, dżdża	dżdżyć	–	*zadżdżyć	dżdżenie
siąpić	heavy drizzle 3 v.	–	siąpić	–	zasiąpić	siąpienie / *zasiąpienie
mgła / mglić	mist n. / v.	mgła	mglić	–	zamglić	mglenie / zamglenie
grad	hail n.	grad	gradzić	zagrządzić	*nagrządzić	gradzenie
burza	storm n.	burza	#burzyć	#zaburzyć	*naburzyć/ #wyburzyć	#burzenie

Adverbial Participle	Adverbial Participle	Adjectival Gerund	Adjective	Adjective	Adverb	Adverb	Augmentative
*deszcząc	??deszcząco	*deszczący	deszczysty	deszczowy	deszczowo	deszczyscie	deszczycia
padając / #upadając	padająco / upadająco	padający					
zacinając	zacinająco	zacinający	*zacinacisty	*zacinaniowy	*zacinaniowo	*zacinaniście	*zacinica
lejąc	lejąco	lejący	*lenisty / #leisty	#leniowy	#leniowo	*leniscie	lanica
kropiąc	kropiąco	kropiący	*kropisty	*kropieniowy	*kropieniowo	*kropiście	??kropica
*śnieżąc	*śnieżąco	??śnieżący	?śnieżysty	??śnieżowy	śnieżowo	śnieżyscie / śnieżnie	śnieżycia
#prósząc	*prósząco	prószący	#prószysty	??prószowy	#prószowo	?prószyscie	prószycia
sypiąc	??sypiąco	sypiący	*sypisty	#sypowy	*sypowo	*sypiście	sypica
#zamiecając	*zamiecająco	*zamiecający	*zamiecisty	zamiecniowy	zamiecniowo	*zamieciscie	-
*zawiejając	zawiejająco*	*zawiejający	*zawieisty	*zawiejowy	zawiejowo	*zawieiscie / zawiejiscie	-
#zawieruszając	*zawieruszająco	#zawieruszający	*zawieruszysty	*zawieruszowy	*zawieruszowo	??zawieruszyscie	-
#zadymiając	#zadymiająco	#zadymiający	#zadymisty	#zadymowy / zadymkowy	#zadymowo / zadymkowo	#zadymiście / *zadymkniście	-
*kurniąc	*kurniąco	*kurniący	*kurnisty	*kurnieniowy	*kurnieniowo	*kurniście	-
#kurząc	#kurząco	#kurzący	#kurzysty	??kurzeniowy / #kurzowy	*kurzeniowo / #kurzowo	??kurzyscie	-
??mżąc	mżąco	mżący	mżysty	mżawkowy	mżawkowo	mżyscie	?mżawica
??dżdżąc	*dżdżąco	?dżdżący	dżdżysty	*dżdżawkowy / *dżdżawowy / ??dżdżowy	*dżdżawkowo / *dżdżawowo / ?dżdżowo	dżdżyscie	*dżdżawica / *dżdżycia
siąpiąc	siąpiąco	siąpiący	siąpisty	*siąpiowy	*siąpiowo	?siąpiście	siąpawica
??mgłąc	*mgłąco	??mgłący	mglisty	??mgłowy	?mgłowo / mglisto	mgliście	?mglica
#gradząc	*gradząco	#gradzący	gradzisty	gradowy	gradowo	*gradziscie	*gradzica
#burząc	#burząco	*burzący	burzysty	burzowy	burzowo	burzyscie	-

Table 4. 'Drizzle' – adverbial participles and gerunds

Lexeme	Verb	Adverbial Participle 1	Adverbial Participle 2	Adjectival Gerund
drizzle 1	mżyć	??mżąc	mżąco	mżący
drizzle 2	dżdżyć	*dżdżąc	*dżdżąco	??dżdżący
drizzle 3	siąpić	siąpiąc	siąpiąco	siąpiący
mist	mglić	??mgląc	*mgląco	??mglący

- b. Wigilia 2006, 6-a rano, okolice Radomia, mgliście, mżąco i pustki na drodze.  
Christmas Eve 2006, 6 am, around Radom, foggy, drizzly, and emptiness on the road
- (5) a. W Londynie pozostawaliśmy stłoczeni w małym, okropnym domu, dzień za dniem, zatrzymywani we wnętrzu przez mżący deszcz i chłód...  
'In London, we were stuck in a small, awful house, day by day, kept inside because of drizzling rain and cold..'
- b. Nie zważał na deszcz, mżący bezustannie, zapomniał nawet otworzyć parasola.  
'He didn't care about the rain, drizzling constantly, he even forgot to open his umbrella.'

It is for this item, *mżyć*, that we see the most important challenge for an iconically motivated theory of lexical class. When native speakers are asked about the meaning of *mżyć* and *siąpić*, they are unable to clearly distinguish them in phenomenological terms. Speakers consistently repeat that *siąpić* is more common. When asked about why *\*mżąc* is not possible, responses suggest that this kind of phenomenon is not compatible with the meaning of this grammatical form. At first, this would be in keeping with the kind of motivated theory for grammatical category in question. Speakers seem to understand this adverbial participle as a form that means 'while x happens', where x is the lexical concept in question. Speakers suggest that this is why it is incompatible with *mżyć*. The reasoning is that this kind of phenomenon is too ephemeral to be considered compatible with this category. If we assume that there is a symbolic relation between the grammatical category and 'while x happens', then this could explain the constraint. However, as we saw, this category is perfectly compatible with *siąpić*, which denotes the same phenomenon. Native speakers can offer no explanation for this contrast. One possible explanation might be that although *mżyć* is slightly more common than *siąpić*, the latter is phonologically similar to a range of very common, although semantically unrelated, verbs. In light



of this, one could argue that the more typical form of the lexeme may facilitate derivation. However, that this is affecting the productivity is unlikely since in the following section, *siqpić* resists derivation completely where other verbs are felicitous. Moreover, native judgement consistently suggests that the combination of the concept 'mist' and the adverbial participle, is perfectly acceptable. However, not a single natural language usage was found, demonstrating that it is not a conventionalised form. The stative nature of the phenomenon of mist would suggest it would be a perfect candidate for the 'while x happens' adverbial form. We can assume this is why native speakers accept this combination at an intuitive level, but it does not explain its zero productivity.

We see two clear descriptive questions. Why is *\*mžqc* not possible when *siqpić* is perfectly acceptable and why is *mgłqc* not used when it is deemed to be perfectly acceptable? Firstly, it must be noted that *mgłqc* takes a reflexive form because the verbal root is transitive. This kind of usage is associated with more formal or literary registers, which might explain its under-representation in the Internet examples. However, the contrast between speaker determined acceptability and usage-based data also raises a theoretical question. Remembering that corpus-driven research cannot provide negative evidence, when we have a positive result from native intuition but no positive result in the found data, how should we determine grammaticality? In such situations, one would normally give priority to speaker intuition. However, when we are dealing with a corpus as large as the World Wide Web and the Usenet, it is tempting to claim that we have a non-conventionalised form-meaning pair. In such a situation, we see a basic weakness in the analytical framework of Cognitive Linguistics: it has yet to develop a satisfactory explanation for the relationship between 'entrenched' for the individual and 'conventionalised' for the speech-community. Although the theory places itself between the mentalist and structuralist approaches, it inadequately explains the relationship between what could be termed, *mutatis mutandis*, *langue* and *competence*. Using found data to describe language with a theory based on the individual's knowledge as well as social convention is a difficult affair. Despite the importance of this question, it must be left aside.<sup>7</sup> We base our results on frequency and maintain the working hypothesis that there is valid relationship between this and degree of conventionalisation. This brings us to the two descriptive questions.

For *\*mžqc*, the answer possibly lies in the fact that it possesses a nominal form, where there is none for *siqpić*. This difference suggests that despite the lack of difference between the two phenomena, the two lexical concepts differ in their pro-

7. Glynn (2004b) offers a more detailed discussion on this theoretical quandary for Cognitive Linguistics, relating it to the theoretical distinctions of *ergon* – *energeia*, *langue* – *parole*, and *competence* – *performance*.

filing of that concept, such that one is a more nominal profiling and the other verbal. Although this explains the constraint of the ‘while x happens’ adverbial participle on the more nominal concept, it is far from clear how this informs a theory of iconically motivated lexical class. If there is a symbolic relationship between our experience of ‘things’ and the category of ‘noun’ and our experience of ‘processes’ and the category of ‘verb’, then the motivation for this distinction is not clear in this instance. It must be remembered that native speakers do not describe any phenomenological difference between the two *designata*, save that perhaps one is lighter. It would seem that for some historical or perhaps phonological reason, one lexical category is nominal and the other verbal with no iconic motivation for a difference between the two. One might argue that the heavier form of precipitation, *siąpić*, is more salient as an event and the lighter, less phenomenologically salient *mżyć* is treated nominally due to this difference. However, we see below in examples (6) – (8) that we have evidence contrary to this line of argumentation.

Let us now consider the same lexemes, though combined with the simpler adjectival and adverbial forms. Table 5 summarises the productivity and constraints upon the combinations of these lexical concepts – grammatical categories.

We see above that the productivity issues for the two lexemes, *mżyć* and *siąpić*, is reversed. For these grammatical categories, it is the more common *siąpić* that does not combine with the adverbial and adjectival classes. To demonstrate the naturalness of these combinations, consider examples (6) – (8)

- (6) a. Witajcie w szary i mżawkowy dzień  
 ‘Welcome to this grey drizzly day.’  
 b. Gdy wszedłem do środka, na zewnątrz zaczął padać lekki, mżawkowy deszcz – rzadkość w Pozagrobo.  
 ‘When I went inside, outdoors light drizzly rain started to fall – very rare in Pozagrobo.’

Table 5. Drizzle – adjectives and adverbs

Lexeme	Root form	Adjective	Adverb	Adverb
drizzle 1	mżawka/ mżyć	mżawkowy	mżawkowo	mżyście
drizzle 2	dżdżyć / dżdżawka (dżdża, dzędża)	*dżdżawkowy / *dżdżawowy/ ??dżdżowy	*dżdżawkowo / *dżdżawowo/ ??dżdżowo	dżdżyście
drizzle 3	siąpić	*siąpiowy	*siąpiowo	??siąpiście

- (7) a. Pozdrawiam mrzawkowo;-)) Widze, ze mi deszcz uderzyl do glowy, oczywiscie mialo byc mżawkowo;-)) Hmmm nastepnym razem bedziesz deszczowo, moze nie zrobie bledu;-))  
 ‘I am sending greetings drizzly;-)) I can see that rain made me crazy, of course it’s supposed to be drizzly;-)) Hmmm, next time it will be rainy, maybe I won’t make a mistake;-))
- b. U mnie mgliście, szaro, ponuro i mżawkowo. Mam nadzieję, że w ciągu dnia co nieco się odmieni.  
 ‘Here, at my place, it’s misty, grey, gloomily and drizzly. I hope that during a day it will change.’
- (8) a. Fotografia, reporterskie, mgliście i mżyście, czyli weekend w Polsce.  
 ‘Photography, report, foggy, and drizzly – that means weekend in Poland.
- b. A że było szarawo i mżyście włączyłem przednie halogeny.  
 ‘And because it was grey and drizzly, I turned the front halogen.’

It should be clear from these examples that this lexeme combines naturally and comfortably with these grammatical classes. The findings also match native intuition that suggests these forms should be productive. This is in sharp contrast to *dździć* and *siąpić* for which there is very little productivity. Indeed, *siąpić* does not combine with any of these categories and mysteriously, *dździć* combines with only one adjectival form. Example (9) is typical of its usage.

- (9) a. Będzie zimno i dźdźyście;- . Będzie piękna pogoda i odległe widoki Jeszcze nigdy w sierpniu na wyjeździe w góry nie miałam złej...  
 ‘It will be cold and drizzly;- . It will be beautiful weather with clear views. Never before in August, on a trip in mountains I had such bad...’
- b. Tak smętnie i dźdźyście. Dlaczego mnie nikt nie zabrał na Lednicę?  
 ‘So sad and miserable and drizzily. Why didn’t anybody take me to Lednica.’

However, two forms derived from the shorter root, *dźdźowy* and *dźdźowo*, do appear. The former is found in lists of theoretically possible words, the second occurs in a couple of examples, only one of which is a clear and good example:

- (10) Wcześniej było szaro i dźdźowo, teraz z nieba buchnął oślepiający słoneczny stroboskop...  
 It was grey and drizzly, then from the sky radiated a sunny dazzling strobe-light...

Table 6. Snowstorm – adverb and adjectives

Root noun	Adjective 1	Adjective 2	Adverb 1	Adverb 2
zamieć	*zamiecisty	zamieciowy	?zamieciowo	*zamieścić
zawieja	*zawieisty	*zawiejowy	?zawiejowo	*zawieścić
zawierucha	*zawieruszysty	*zawieruszowy	*zawieruszowo	??zawieruszyć
zadymka (zadyma)	#zadymisty	#zadymowy / ??zadymkowy	#zadymowo / ?zadymkowo	#zadymiścić / *zadymkieniścić
kurniawa	*kurnisty	*kurnieniowy	*kurnieniowo	*kurniścić
kurzawa	#kurzysty	??kurzeniowy #kurzowy	*kurzeniowo #kurzowo	??kurzyć

Although the nominal bias proposed above may explain why ‘dżdżawka’ is not felicitous in an adverbial form, it does not explain the constraint on the theoretically possible, yet unattested, \**dżdżawkowy*, and the clear limitations on the forms *dżdżowy* and *dżdżowo*. Native speakers confirm these results yet can offer no explanation whatsoever why one form ‘sounds’ natural and not the other. However, the nominal root for this lexical concept is rare which may explain the relative lack of productivity of derived forms. Nevertheless, same seemingly arbitrary constraints exist for the more common \**siąpiowy*, \**siąpiowo*, and ??*siąpiście*. The reversal of productivity and the fact that here we see the constraints on both adjectival and adverbial forms seems to rule out the salience explanation and indeed paints an entirely arbitrary picture of the relative productivity.

We can now consider one last set of items, this time denoting the stative phenomenon of snowstorm, which is profiled nominally across no less than six lexemes in Polish. Table 6 presents the irregularities in the productivity for this lexical concept for the adjectival and adverbial categories.

The first term, *zamieć*, implies a serious snowstorm and is typical of the formal, even technical, register used in weather reporting. This is contrasted by *zawieja*, which is less formal and denotes a meteorological condition somewhat less severe. The third item, *zawierucha*, is effectively the same as the previous. Some speakers suggest it emphasises windiness of a snowstorm, other speakers insist that this is not the case. Both items are commonly used. The next item, *zadyma*, is the augmentative of *zadymka*, which typically means a fight or a ruckus, but can also be used to refer to a snowstorm. This item seems to denote effectively the same phenomenon as *zawieja* and *zawierucha*, eight educated native speakers of various ages not being able to differentiate it semantically from the previous two. However, it seems to be used less commonly. The final two items, *kurniawa* and *kurzawa*, are regional and this is their main connotation. Firstly, speakers note that they are from

the mountains to the south, and secondly, by extension, since snowstorms are typically wilder in mountainous regions, it is assumed to indicate a fiercer storm.

The general pattern that these forms do not derive in relational classes is predictable and likely to be iconically motivated. A snowstorm is an unlikely concept used to describe other concepts. Although they sometimes do last longer periods of time, an entire day is rare and so the need to speak of a snowstormy day or even afternoon will indeed be rare. This effectively rules out predictive uses and the most common motivation for an attributive use. It is for this reason that these items are nouns, not verbs, going against the trend in Polish and this is surely the reason behind the limitations on these items in relational classes. However, contrary to this 'iconic' logic, there are certain noticeable exceptions where these lexemes are felicitous in relational classes such as adjectives, and even adverbs. Firstly, and most remarkably, is the adjectival form of *zamieć*. Consider example (11).

- (11) a. **Zamieciowy** Tour de Spisz. Rankiem pożegnano pieszą zimówkę, która udała się do Zakopanego.  
'Blizzardy Tour de Spisz. In the morning, one said goodbye to the walking 'winter trip,' which then went to Zakopane.'
- b. Dobry śnieżno-zamieciowy;)). Robercie:)) o nie ma mowy! balast jest za lekki i sanki wywrotne bardzo...  
'Good snowy-blizzardy;)). Robert:)) No way! The ballast is too light and the sled is really turning over...'

We see here the natural usage of a nominal, derived as an adjective, but one where none of the other five terms denoting the same phenomenon form felicitous class-lexeme pairs. The source domain, 'sweep', is similar to other source domains for the same concept, such as 'blow' and 'billow'. The fact that it is somewhat associated with more formal speech and weather reporting surely has no bearing, especially in terms of iconic motivation. The phonology is not remarkably different, and its frequency is similar to the other items. This it would seem is a clear example of arbitrary grammar.

Secondly, we have three of the items taking adverbial derivations. Seeing the nominal origin of the lexemes in question, this is most unpredictable. Consider three examples of the adverbial derivation of *zadymka*.

- (12) a. My tez was pozdrawiamy rownie goraco, pomimo, ze u nas snieznie, zadymkowo i zimno.  
'We greet you equally warmly, despite it's snowy, snowstormily, and cold.'

- b. Fotografia, krajobraz, będzie wiosna. Pozdrawiam zadymkowo, ale cieplutko:)).  
 ‘Photography, landscape, there will be spring. I greet you snowstormily but warmly:)).’
- c. Pozdrawiam śniegowo-zadymkowo Ja...cki Jak zwykle oboje macie racje. I słońce i cień.  
 ‘I greet snowily-snowstormily Ja...cki. As always you both are right. Both sun and shade.’

Although not productive, there being far fewer than 50 examples, it is surprising that this form is at all possible. Not only is it an adverbial relation, it is the least frequent of the non-dialectal forms. Typically, the more frequent forms display more versatility in class derivation. Why is this combination possible, if relatively rare, when the others are not? There was also a single isolated example of the adjectival form, *zadymkowy*:

- (13) W dzień styczniowy, mroźny, zadymkowy, na placu przed szkołą...  
 ‘On a January, frosty, snowstormy day, in the square in front of the school...’

What explanation can we find for such exceptions save incidental historical reasons? Again, phonology is not the reason since all the items are phonologically similar. The only unique feature of this lexeme is that it may also be derived as an augmentative, but this surely would not evoke any positive bearing on its productivity in relational classes. The source domain of the item is ‘commotion’ or ‘turbulence’. Could the explanation lie in the metaphorical basis of the item? Other source domains include, ‘sweep’, ‘blow’, ‘billow’, and ‘be lost’. Although this metaphor differs from the other items, there is no obvious reason why it should affect the productivity in this way.

Importantly, the examples are examples of creative language use. In light of this, the repetition of the verb *powitać*, which means ‘to greet’ or ‘to say hello’, could be an idiolectal issue. It is not possible to know with these data, but these examples could result from a single user and so represent idiolectal creativity. However, this lexeme is not an isolated instance, two other lexemes also take, albeit rarely, this adverbial form. Just as for *zadymka*, they are indicated with a single interrogation mark in Table 6 because only a small number of instances were found. Nevertheless, it must again be underlined that despite the size and diversity of the Internet, it represents only the merest fraction of language production and that all these examples are considered perfectly natural by native speakers. As stressed above, the argument that such examples are outside the main of language is clearly ill-founded. Examples (14) and (15) are representative of those found.

- (14) a. no to się wpisuję;) pozdrawiam ciepło i biało i zamieciowo... wpisuję się w pierwszy dzień ferii w którym mam...  
 'so I sign in;) I am greeting warmly and white and snowstormily... I sign at the first day of winter holidays when I have...'
- b. nawiało zawiąło i zima się zrobiła, ładnie bardzo zamieciowo.  
 'it blew and blew and winter came, pretty very snowstormily'
- (15) a. Dzień dobry zamieciowo, zawiejowo, nieco chlapiasto. Ze wsi o poranku dojechać do miasta można, ale z lekkim opóźnieniem.  
 'Hello snowstorish, blizzardy, slightly sludgy. From the village in the morning to get to town is possible, but with slight delay.'
- b. tegoroczny luty w Polsce jest figlasty... było wiosennie, było zimowo, było zawiejowo, było deszczowo... słowem: dla każdego coś miłego, drogi Podhale:))...  
 'February this year is tricky...it was springish, it was winterish, it was snowstormish, it was rainy... literally: fun for all, dear Podhale:))'

It should be obvious that although these examples represent somewhat creative language use, they are perfectly natural examples. Why should these nominal concepts be more productive as adverbs than adjectives? Indeed, why should they be possible at all in relational classes? There are perhaps *ad hoc* explanations for some of these combinatory possibilities, but they are surely not based on iconic motivation. It would seem that the quirks of compositionality are too numerous to rely on abstract and schematic hypotheses of universal perceptual categories. Perhaps such a claim is obvious, but in the current literature, it could easily be forgotten that despite the importance of iconicity in grammatical structure, it is but one motivating factor interacting in a complex and multidimensional context of compositionality.

#### 9.4 Conclusion

From this brief study, it should be clear that the grammaticality and productivity of class-lexeme pairing is a complex question. For even this perceptually based, relatively simple lexical field, we have seen a number of what seem to be arbitrary examples of constraints upon and motivation for compositionality. Although the findings do not discredit the work of Górska (2001, 2002) and Tabakowska (2003), who find motivated explanations for similar phenomena for the same language, they show that even if an iconic basis of *partes orationis* is viable, it certainly cannot explain a great deal the complexity involved in compositionality. The findings presented here more consistently demonstrate the tendencies seen in Glynn (2006,



forthcoming). The lack of productive compositionality for the adjectival and adverbial forms of such semantically similar lexemes, where no issues of frequency or salience can be evoked to explain the variation, seem to unequivocally show the limits of Cognitive Grammar's use of iconic motivation to explain lexical class. Although this does say these categories are not based in our universal human experience, the vagaries of language remain too complex for such abstract and schematic explanations to adequately explain lexeme-class compositionality.

It seems that if an iconic theory of grammar is to be accurate, it needs to integrate other possibilities of motivation for and constraint upon productivity into their descriptive apparatus. Despite the descriptive power of Cognitive Grammar, it currently leaves little place for arbitrary structures, as well as the complexity of lexical concerns, in its model. Bringing such abstract theoretical structures closer to the unpredictable and irregular nature of language is an important next step for Cognitive Grammar. Arguably, a multifactorial usage-based approach to language description is warranted to properly capture such variation.

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