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## PATTERNS OF METAPHOR-METONYMY INTERACTION IN ANIMAL-SPECIFIC COMPLEX LEXICAL UNITS<sup>1</sup>

The aim of this paper is to analyse various animal-specific complex lexical units together with patterns that can be held responsible for their underlying conceptual structure. Many examples of the data investigated in the paper seem to represent compounds as they are traditionally understood in the literature of the subject (see, among others, Bauer 2003; Katamba and Stonham 2006; Lieber and Štekauer 2009; Fàbregas and Scalise 2012; Bauer et al. 2013); however, others do not meet the basic criteria for compoundhood as postulated by, for example, Altakhaineh (2016). In my research I use the term animal-specific complex lexical units with reference to all animal-related composite expressions being the result of the working of metaphor-metonymy interaction.

Keywords: *metaphor, metonymy, animal-specific, complex lexical unit*

### 1. Introduction

Compounding is one of the most productive word-formation processes in English (see Lieber and Štekauer 2011). Bauer (2003: 40) defines a compound as “the formation of a new lexeme by adjoining two or more lexemes”. Traditionally compounds are divided into a number of types which, among others, include the grammatical relationship of coordination, subordination, or attribution between the compounded elements as well as the semantic criterion of endocentricity vs exocentricity (see Bisetto and Scalise 2005). As postulated by Marchand (1960), a compound whose determinatum (‘head’ in modern generative terminology or ‘profile determinant’ in the cognitive approach) is formally expressed is called an

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<sup>1</sup> The author of the paper is grateful to two anonymous reviewers for their illuminating remarks that have been incorporated into the body of this text.

endocentric compound. In turn, compounds in which the actual determinatum is only implicit and is not formally (morphematically) expressed are known as exocentric.

In this paper I will provide evidence suggesting that animal-specific<sup>2</sup> complex lexical units, many of which meet the criteria for compoundhood, may be viewed as motivated by metaphor, or metonymy, or the interaction of the two, a phenomenon referred to in the literature as metaphonymy. The notion of the metaphor-metonymy interface is discussed by Goossens (1990), who proposed the term metaphonymy, as well as by, among others, Mendoza and Diez (2003) and Gil and Ruiz (2006).

According to many morphologists (see, for example, Bauer 2003, Lieber and Štekauer 2009, Altakhaineh 2016), some criteria for compoundhood<sup>3</sup> are more reliable than others. In particular, if we take into account stress placement, we will have to accept *roadhog* ‘a driver who is dangerous because they do not think about other drivers’ (*CD*<sup>4</sup>) as a compound, because the left-hand element (the modifier) is stressed (/ˈrəʊd ˌhɒɡ/), but *lame duck* ‘an unsuccessful person, thing, or organization’ (*CD*<sup>5</sup>) as a phrase due to the fact that its right-hand element (the profile determinant) bears the main stress (/ˌleɪm ˈdʌk/). It seems that it may, by no means, be easy (if at all possible) to delineate a clear-cut boundary between compounds and phrases. In this respect, Bauer (1998: 78) argues that there is no single criterion that corroborates a reliable distinction between the two types of construction, at least in English. In a similar vein, Plag (2006) shows his scepticism in that he questions the possibility of differentiating between N + N compounds and phrases.

Due to the fact that a number of examples subject to analysis in the paper may or may not satisfy the basic criteria for compoundhood, I will prefer to adopt the concept of a complex lexical unit or composite expression instead, or all the three terms will sometimes be used interchangeably. The analysis will show that similar metaphor-metonymy interaction patterns may be held responsible for the rise of many lexical units regardless of whether they are compounds or phrases and, therefore, from the cognitive perspective, both types of composite expressions<sup>6</sup> can be treated jointly as complex lexical units.

<sup>2</sup> In the literature of the subject, the figurative use of animal-specific terms is referred to as zoo-metaphor by Sakalauskaite (2010) and zoosemy by Kieltyka (2016).

<sup>3</sup> A detailed discussion of all the criteria for compoundhood, such as orthography, stress, modification, compositionality, displacement, insertion, referentiality, coordination, replacement of the second element by a pro-form, ellipsis, inflection and linking elements, adjacency, goes beyond the scope of this paper. For a valuable account of the requirements that compounds usually meet, see Altakhaineh (2016) and the references therein.

<sup>4</sup> *Cambridge Dictionary online* (henceforth *CD*): “The road ‘hog’ will roar past me, but he will quite happily and instinctively give way to the driver of an invalid vehicle.”

<sup>5</sup> Quoted from *CD*: “A lot of time and effort goes into supporting employees who are essentially lame ducks.”

<sup>6</sup> Notice that Geeraerts (2003) uses the term *composite expressions* for both idioms and compounds.

## 2. Corpus and aims of the research

In my research I have collected a corpus of over 100 animal-related noun-noun, adjective-noun composite expressions (listed in tables 1, 2 and 3 in the body of the paper) used figuratively (based on metaphor/metonymy or both) with reference to people, plants, other animals, inorganic entities and abstract concepts that were found in a number of lexicographic sources (e.g. *Oxford English Dictionary (OED)*, *Cambridge Dictionary online (CD)*, *Collins English Dictionary (CED)*, *Merriam-Webster Dictionary (MW)*, *Longman Dictionary of Contemporary English (LDCE)*).

The aims of my research are manifold. The major goal is to investigate the basic patterns of metaphor-metonymy interaction in animal-specific complex units together with their frequency of use in the *British National Corpus (BNCweb)*. In this respect, it would be worthwhile to determine what types of animals are possible sources of conceptual interaction, as well as to investigate the frequency of animal-related complex units in which animal terms represent right-hand and left-hand elements (constituents). Yet another goal one may wish to pursue would be to investigate the productivity of the identified targets (people, inanimate beings, plants, abstract concepts). This paper is, however, merely a pilot study, a part of a larger whole, and as such it may aspire only to portray the complexity, rather than exhaust the issue in hand. A modest goal of the paper is, therefore, to present the current state of my research and to signal potential paths for future research. To the best of my knowledge there are no studies dedicated exclusively to the analysis of animal-specific compounds or, rather, complex lexical units, as I call them here, so this research may, at least in part, fill this apparent gap.

## 3. Methodology and the problem of motivation

In this account I will follow the definition postulated by Radden and Kövecses (1999: 128) according to whom “[...] metonymy is a cognitive process in which one conceptual entity, the vehicle, provides mental access to another entity, the target, within the same idealized cognitive model”, or – concisely put – the conceptual entities involved belong to one and the same conceptual domain. In turn, as argued by Kövecses (2015: ix), “conceptual metaphors consist of sets of systematic correspondences, or mappings between two domains of experience and [...] the meaning of a particular metaphorical expression realizing an underlying conceptual metaphor is based on such correspondences.”

As far as the problem of motivation is concerned, various patterns of conceptual interaction leading to the rise of composite expressions must be recognized. Specifically, I follow the methodology proposed by Benczes (2006), who argues that complex lexical units can be metaphorically or metonymically motivated, or they can be both metaphorically and metonymically motivated in

that the head (profile determinant) of such a unit may be metaphorical and the modifying constituent may be conditioned by metonymy (the opposite situation being equally possible) or their motivation can be double metaphorical in cases where both constituents are underlain by conceptual metaphor (e.g. *chicken hawk* discussed in the body of the paper and possibly some animal specific place names) or double metonymic. It is also important to realize that the relation between constituents may also be metaphorical or metonymic. Briefly speaking, one may argue that the structure of metaphorical and/or metonymical animal-specific complex lexical units is to a considerable extent systematic in that it depends on the type and degree of metaphorical and/or metonymical motivation that individual constituents of these lexical units exhibit. It seems that the main difficulty in proposing a satisfying classification of these composite expressions is to determine which constituent is activated by metaphor/metonymy: the head (profile determinant), the modifier, the relationship between the two or the whole complex lexical unit. I will start the discussion from the lexical units underlain by conceptual metonymy.

#### 4. Metonymy-based/metonymic(al) complex lexical units

The compound *redcap* (/ˈredkæp/) ‘a porter’ is traditionally viewed as exocentric, e.g. by Bauer (1983: 30) who argues “that this type of compound is a hyponym of some unexpressed semantic head” (in this case ‘person’). I share the view expressed by Bierwiazzonek (2013: 137) who argues that *redcap* should be classified as an endocentric compound because “the head of the compound is not really absent but it is accessed as the target through PART-FOR-WHOLE metonymy.” In this case the porter is accessed through its salient part, that is a red cap. Therefore, it seems plausible to classify *redcap* as an ordinary endocentric compound whose conceptual head is accessed through the lexical head of the compound by means of metonymy. Geeraerts (2003: 454) refers to such compounds as ‘metonymical compounds’.

In true exocentric compounds, like *pickpocket*, the head is absent, but it can also be accessed metonymically. The difference is, however, that it can be accessed not through one of its parts, but through its predicate part: “designated by the verb and its object, where the object NP does not denote a part or property of the target but another entity with which the targeted Agent interacts” (Bierwiazzonek 2013: 137). Notice that, for example, a *killjoy* spoils other people’s fun, not his own.

The corpus I have collected embraces a number of animal-related metonymy-based composite expressions. It seems that one can enumerate a few possible types of such complex lexical units: those with a metonymy-based modifier (e.g. *bear jam*, *dog collar*, *dog tag*), those with a metonymy-based head, those with double metonymical motivation (e.g. *catfish*) including the metonymic relationship between the constituents, as well as cases where the whole unit is

metonymical, e.g. *bearskin*, *cold turkey*. The table displayed below presents the scope of animal-related metonymy-based complex units together with patterns of conceptual interaction, the number of hits in the *BNC* and their frequency of appearance in the texts collected in the corpus. The following abbreviations are used to identify the type of metonymic relation conditioning the rise of specific units discussed:

MM – metonymic modifier – 12 cases

MH – metonymic head – 0

DM – double metonymic motivation – 2 cases

WM – the whole unit is metonymical (including metonymic relation between constituents) – 11 cases

Table 1. Metonymy-based animal-related complex units

Complex unit	Meaning and the pattern of conceptual interaction it is based on	Patterns grouped according to type	Number of hits in BNC	Frequency (instances per million words)
<i>bear jam</i>	'a traffic jam in a park caused by motorists stopping to watch one or more bears' <sup>a</sup> MM	MM	no matches	0
<i>catnap</i>	'a very short light nap' MM	MM	4	0.04
<i>cock-and-bull story</i>	'a story or excuse that is silly and unlikely but is told as if it were true' MM	MM	1	0.01
<i>dog collar</i> <sup>b</sup>	'a piece of thin leather that you fasten around a dog's neck'	MM	17	0.17
<i>dog rose</i>	'a chiefly European wild rose ( <i>Rosa canina</i> )' ( <i>MW</i> ) MM	MM	10	0.1
<i>dogwood</i>	'any of various trees and shrubs (genus <i>Cornus</i> of the family <i>Cornaceae</i> , the dogwood family) with clusters of small flowers and often large white, pink, or red involucre bracts' ( <i>MW</i> ) MM	MM	15	0.15
<i>horse doctor</i>	'one who doctors horses: a veterinarian', MM	MM	1	0.01
<i>horse latitudes</i>	'either of two belts or regions in the neighbourhood of 30° N and 30° S latitude characterized by high pressure, calms, and light variable winds' ( <i>MW</i> ) MM	MM	1	0.01

Table 1 – continued

Complex unit	Meaning and the pattern of conceptual interaction it is based on	Patterns grouped according to type	Number of hits in BNC	Frequency (instances per million words)
<i>monkey wrench</i> <sup>c</sup>	1: 'a wrench with one fixed and one adjustable jaw at right angles to a straight handle', MM	MM	4	0.04
<i>pigpen</i>	'a pen for pigs' – MM	MM	no matches	0
<i>bearskin</i>	1: 'the skin and fur of a bear', MM 2: 'a tall hat made of black fur, worn by British soldiers for special ceremonies' WM	WM	15	0.15
<i>dark horse</i> <sup>d</sup>	1: 'a usually little-known contender (such as a racehorse) that makes an unexpectedly good showing', 'someone who is not well known, and who surprises people by winning a competition', 2: British English 'someone who does not tell people much about themselves, but who has surprising qualities or abilities' WM	WM	20	0.2
<i>dogtrot</i> <sup>e</sup>	1: 'a quick easy gait suggesting that of a dog', 2: <i>chiefly Southern US and Midland US</i> : 'a roofed passage similar to a breezeway <i>especially</i> : one connecting two parts of a cabin' (MW), the whole is metaphorical	WM	no matches	0
<i>fishbowl</i> <sup>f</sup>	1: 'a bowl for the keeping of live fish', MM 2: 'a place or condition that affords no privacy', the whole is metaphorical	WM	4	0.04
<i>grasshopper</i> <sup>g</sup>	1: 'any of numerous plant-eating orthopterous insects having the hind legs adapted for leaping and sometimes engaging in migratory flights in which whole regions may be stripped of vegetation', 2: 'a cocktail made with crème de menthe, crème de cacao, and light cream', the whole is metaphorical	WM	47	0.48

Complex unit	Meaning and the pattern of conceptual interaction it is based on	Patterns grouped according to type	Number of hits in BNC	Frequency (instances per million words)
<i>horse opera</i>	'a western movie' WM	WM	1	0.01
<i>pig iron</i>	'a form of iron that is not pure' MM	MM	18	0.18
<i>pigtail</i>	'a bunch of hair or one of two bunches on either side of the face, worn loose or plaited' WM	WM	24	0.24
<i>snake-head/ turtlehead</i>	'any of a genus ( <i>Chelone</i> ) of perennial North American herbs of the snapdragon family with spikes of showy white or purple flowers' WM	WM	14	0.14
<i>turtleneck</i>	'a piece of clothing that covers the top part of the body and has a tube-like part covering the neck' WM	WM, DM	13	0.13
<i>chicken pox</i>	'an infectious illness which causes a slight fever and spots on your skin' WM, DM	WM, DM	41	0.42
<i>dogsbody</i>	'someone who has to do all the small boring jobs that no one else wants to do' metonymic relation between the elements, WM	WM	33	0.34
<i>catfish</i> <sup>b</sup>	1: 'any of an order ( <i>Siluriformes</i> ) of chiefly freshwater stout-bodied scaleless bony fishes having long tactile barbels', MM 2: 'a person who sets up a false personal profile on a social networking site for fraudulent or deceptive purposes', the whole is metaphoric	MM	231	2.35

<sup>a</sup> Unless otherwise indicated, the examples and their definitions are quoted from *LDCE*.

<sup>b</sup> This composite expression is also listed in Table 2 because it can be used metaphorically with reference to the white collar worn by priests.

<sup>c</sup> This complex unit is also placed in Table 2.

<sup>d</sup> It is also listed in Table 2.

<sup>e</sup> It is also placed in Table 2.

<sup>f</sup> It is also listed in Table 2.

<sup>g</sup> Most of the *BNC* hits represent the literal uses of this composite expression. It is also listed in Table 2.

<sup>h</sup> Most of the uses in the *BNC* represent the literal fish, which is why the high figures are not really informative of the productivity of the figurative use of *catfish*. This composite expression also appears in Table 2.

Even a cursory glance at the table shows a lack of animal-related complex lexical units with the head constituent based on metonymy. A possible explanation for this status quo might be the fact that a metonymically conditioned head would also affect a modifier and, by doing so, it would turn the whole unit metonymic. However, in Table 3, below, one may find a few examples of animal-related complex lexical units with metonymic heads and metaphorical modifiers. As far as the proportions are concerned, the composite expressions in which the whole unit is metonymical (including metonymic relation between constituents) outnumber those with a metonymic modifier and there are only two cases of double metonymic motivation.

What is also striking is the fact that the frequency of appearance of the composite expressions listed in the table above (as well as the remaining two tables displayed in the body of the paper) is surprisingly low, with only 2 cases exceeding the number of 100 hits in the *BNC* (in this case mainly a collection of books and periodicals). It is possible that the figures would be much higher if a different corpus of texts (for example dialogues or play scripts) were consulted. In fact, some of the analysed composite expressions, like *lucky dog*, are so informal that one might expect to find them only in colloquial dialogues. However, the statistics presented in the tables give a general impression of the productivity of the analysed complex lexical units.

It should also be stated here that quite frequently it is by no means easy to determine what kind of motivation a given complex lexical unit exhibits; that is, whether it is metaphorically or metonymically conditioned. It seems that if animal-based composite expressions are motivated by similarity (likeness) between the source and the target, then their nature is metaphorical. If, however, they are motivated by an identifying salient property of the referent, i.e., they refer to a circumstance or distinctive aspect closely linked to their referent, their nature is metonymic. For example, in the case of *dog collar*, the animal term *dog* can be regarded as a metonymic modifier for the sense ‘a piece of thin leather that you fasten around a dog’s neck’, however, the whole composite expression is used metaphorically with reference to the white collar worn by priests.

Likewise, it is not necessarily clear whether the meaning of *chicken pox* is, in fact, motivated by metonymy or metaphor. One may hypothesize that if it refers to a circumstance or distinctive aspect closely linked to its referent (chicken), its nature is metonymic or, possibly, double metonymic. If, however, it is motivated by similarity (likeness) between the source and the target, then its nature is metaphorical. According to the *Online Etymology Dictionary*, *chicken pox*, which was first recorded c. 1730, is “perhaps so called for its mildness compared to smallpox, or its generally appearing in children, or its resemblance to chick-peas.”<sup>7</sup> If, then, one were to judge by the historical evidence provided by etymological sources, one might arrive at the conclusion that in this particular

<sup>7</sup> See <https://www.etymonline.com/word/chicken%20pox>. Date of access: 3<sup>rd</sup> December 2018.

case, the motivation for the rise of this complex lexical unit is of a metaphorical origin.

Motivation-wise, a far more transparent example is that of *bearskin* ‘a tall hat made of black fur, worn by British soldiers for special ceremonies’, in the case of which the semantic relation between the two nouns is that of possession. This means that the modifying element (*bear*) specifies the entity (‘animal’) that possesses the thing denoted by the right-hand element of the complex unit (that is *skin*). In this conceptualisation, the entity denoted by the composite expression *bearskin* (‘the skin of a bear’) stands for the hat made out of bearskin. One may argue after Radden and Kövecses (1999: 32) that this complex lexical unit represents the conceptual metonymy formalised as the MATERIAL CONSTITUTING AN OBJECT FOR THE OBJECT.

Yet another interesting and, what is more, motivationally non-opaque example is that of *bear jam* ‘a traffic jam in a park caused by motorists stopping to watch one or more bears’ (see Benczes 2006: 147) based on the complex lexical unit *traffic jam*. The first constituent of this composite expression metonymically stands for the action of watching bears through the conceptual metonymy CAUSE FOR RESULT. In this PART FOR PART METONYMY the motorists watching the bears are the Agents, while the bears are the Patients. The Action of stopping to watch the bears is the cause of the traffic jam.

## 5. Animal-specific metaphorically motivated complex lexical units

The corpus also comprises a number of complex lexical units underlain by general conceptual metaphors, such as ANIMAL IS PLANT, ANIMAL IS INANIMATE ENTITY, ANIMAL IS (ANOTHER) ANIMAL, ANIMAL IS ABSTRACT ENTITY, that are based on the metaphor system referred to in the literature as *The Great Chain of Being* (see Lakoff and Turner 1989), a common understanding of how entities in the world are related to one another. *The Great Chain of Being* is known as a model of the organization and perception of the surrounding reality which is deeply rooted in the European tradition and which relies on the fact that all the material/physical and spiritual entities create a hierarchy ranked from the lowest entities/beings to those occupying the highest level of the hierarchy. *The Great Chain of Being* and the processes it involves play an important role in the analysis of semantic change. For example, the operation which involves an extension of values from the animal to the human level, as formulated by Krzeszowski (1997: 81) [...] *from the level where instinctive behaviour is most salient to the human level, at which moral judgements give rise to the resulting values* is held responsible for the working of the conceptual metaphor PEOPLE ARE ANIMALS.

The possible patterns of conceptual interaction within the metaphor-based complex lexical units include:

- MM – metaphorical modifier: 20 cases  
 MH – metaphorical head: 5 cases  
 WM – the whole unit is metaphorical (including metaphorical relation between constituents): 48 cases  
 DM – double metaphorical motivation: 2 cases

Table 2. Metaphor-based animal-related complex lexical units

Complex unit	Meaning and the pattern of conceptual interaction it is based on	Patterns grouped according to type	Number of hits in BNC	Frequency (instances per million words)
<i>chicken hawk</i>	‘a person who now advocates war but who once took special measures to avoid military service’ DM	DM	no matches	0
<i>turkey cock</i>	‘a strutting pompous person’ (MW) DM	DM	1	0.01
<i>cash cow</i>	‘something that a company sells very successfully and that brings in a lot of money’ MH	MH	15	0.15
<i>eager beaver</i>	‘someone who is too keen and works harder than they should’ MH	MH	3	0.03
<i>hot dog</i>	‘a cooked sausage in a long piece of bread’ MH	MH	37	0.38
<i>lady bird</i>	‘a small round beetle (a type of insect) that is usually red with black spots’ (LDCE) MH	MH	3	0.03
<i>night owl</i>	‘someone who enjoys staying awake all night’ (LDCE) MH	MH	9	0.09
<i>bee orchid</i>	‘a European orchid ( <i>Ophrys apifera</i> ) whose flowers bear a resemblance to bees, flies, or other insects’ MM	MM	2	0.02
<i>cat burglar</i>	‘a thief who enters a building by climbing up walls, pipes etc’ MM	MM	6	0.06
<i>cat fight</i>	‘an intense fight or argument especially between two women’ (MW) MM	MM	2	0.02
<i>dog tag</i>	‘a small piece of metal that soldiers wear on a chain around their necks with their name, blood type etc written on it’ WM	WM	1	0.01

Complex unit	Meaning and the pattern of conceptual interaction it is based on	Patterns grouped according to type	Number of hits in BNC	Frequency (instances per million words)
<i>crane fly</i>	‘any of a family ( <i>Tipulidae</i> ) of long-legged slender dipteran flies that resemble large mosquitoes but do not bite’	MM	4	0.04
<i>dog days</i>	1: ‘the hottest days of the year’ metonymic modifier, 2: ‘a period of time when something is not successful’ MM	MM	8	0.08
<i>dog Latin</i>	‘incorrect or ungrammatical Latin’ ( <i>CED</i> ) MM	MM	no matches	0
<i>dog-end</i>	‘the small part of a cigarette left after it has been smoked’ MM	MM	3	0.03
<i>goose pimples</i>	‘small raised spots on your skin that you get when you are cold or frightened’ MM	MM	12	0.12
<i>snake oil</i>	‘any of various substances or mixtures sold (as by a traveling medicine show) as medicine usually without regard to their medical worth or properties’ ( <i>MW</i> ) WM	WM	7	0.07
<i>dogtrotr<sup>a</sup></i>	1: ‘a quick easy gait suggesting that of a dog’, metonymic modifier 2: <i>chiefly Southern US and Midland US</i> : ‘a roofed passage similar to a breezeway <i>especially</i> : one connecting two parts of a cabin’ ( <i>MW</i> ), the whole is metaphorical	WM	no matches	0
<i>fishbowl<sup>b</sup></i>	1: ‘a bowl for the keeping of live fish’, metonymic modifier 2: ‘a place or condition that affords no privacy’, the whole is metaphorical	WM	4	0.04
<i>grass-hopper<sup>c</sup></i>	1: ‘any of numerous plant-eating orthopterous insects having the hind legs adapted for leaping and sometimes engaging in migratory flights in which whole regions may be stripped of vegetation’, 2: ‘a cocktail made with crème de menthe, crème de cacao, and light cream’, the whole is metaphorical	WM WM	47	0.48

Table 2 – continued

Complex unit	Meaning and the pattern of conceptual interaction it is based on	Patterns grouped according to type	Number of hits in BNC	Frequency (instances per million words)
<i>hen party</i>	‘a party for women only, that happens just before one of them gets married’ MM	MM	8	0.08
<i>horse power</i>	‘a unit for measuring the power of an engine, or the power of an engine measured like this’ MM	MM	30	0.31
<i>horse radish</i>	‘a plant whose root has a very strong hot taste’ MM	MM	1	0.01
<i>stalking horse</i>	‘someone or something that hides someone’s true purpose, especially a politician who says they want their leader’s job when the real plan is that another, more important politician should get it’ WM	WM	20	0.2
<i>Trojan horse</i>	1: ‘something that looks attractive but that is intended to deceive’, 2: ‘a computer program that seems to be helpful but that is designed to destroy data’ WM	WM	33	0.34
<i>horse sense</i>	‘strong common sense’ MM	MM	8	0.08
<i>scapegoat</i>	‘one that bears the blame for others’ WM	WM	165	1.68
<i>monkey business</i>	‘tricky or questionable practices or conduct’, ‘high-spirited or mischievous activity’ MM	MM	11	0.11
<i>pig Latin</i>	‘a jargon that is made by systematic alteration of English (such as <i>ipskay the ointjay</i> for <i>skip the joint</i> )’ (MW) MM	MM	no matches	0
<i>dark horse<sup>d</sup></i>	1: ‘a usually little-known contender (such as a racehorse) that makes an unexpectedly good showing’, metonymic modifier ‘someone who is not well known, and who surprises people by winning a competition’,	WM	20	0.2

Complex unit	Meaning and the pattern of conceptual interaction it is based on	Patterns grouped according to type	Number of hits in BNC	Frequency (instances per million words)
	2: British English 'someone who does not tell people much about themselves, but who has surprising qualities or abilities' WM			
<i>puppy fat</i>	'fat on a child's body, that disappears as they get older' MM	MM	10	0.1
<i>puppy love</i>	'a young person's romantic love for someone, which other people do not think is serious' MM	MM	8	0.08
<i>stag party</i>	'a party for men only, especially on a night before a man's wedding' MM	MM	17	0.17
<i>tiger economy</i>	'the economy of a country, esp. in Eastern Asia, that is achieving rapid economic growth' (CDE) MM	MM	no matches	0
<i>tiger lily</i>	'a common Asian garden lily ( <i>Lilium lancifolium</i> synonym <i>L. tigrinum</i> ) that has nodding orange-colored flowers densely spotted with black and alternate leaves with black bulblets in the leaf axils' (MW) MM	MM	7	0.07
<i>tiger mother</i>	'a mother who is extremely strict with her children so that they will behave very well and achieve a lot'	MM	no matches	0
<i>horse doctor<sup>e</sup></i>	'an inadequately trained or incompetent doctor' WM	WM	1	0.01
<i>lame duck</i>	1: 'a politician or a government that no longer has any real power or authority', WM 2: 'a company that is losing a lot of money' WM	WM	17	0.17
<i>lucky dog</i>	'a lucky fellow/chap' WM	WM	2	0.02
<i>sacred cow</i>	'a belief, custom, system etc that is so important to some people that they will not let anyone criticize it' WM	WM	15	0.15

Table 2 – continued

Complex unit	Meaning and the pattern of conceptual interaction it is based on	Patterns grouped according to type	Number of hits in BNC	Frequency (instances per million words)
<i>beehive</i> <sup>f</sup>	‘something resembling a hive for bees: such as a: a scene of crowded activity b: a woman’s hairdo that is conical in shape’ WM	WM	73	0.74
<i>black sheep</i>	‘a disfavored or disreputable member of a group’ (MW) WM	WM	103	1.05
<i>busy bee</i>	‘one who is very busy and active’ WM	WM	7	0.07
<i>butterfly</i> <sup>g</sup>	( <i>butter</i> + <i>fly</i> ) ‘an insect belonging to any of those diurnal species of lepidoptera, or scaly-winged flies, which have knobbed antennæ, and carry their wings erect when at rest’ (OED), ‘something that resembles or suggests a butterfly <i>especially</i> : a person chiefly occupied with the pursuit of pleasure’ WM	WM	633	6.4
<i>cold fish</i>	‘a cold aloof person’ WM	WM	12	0.12
<i>dead duck</i>	‘a plan, idea etc that is not worth considering because it is very likely to fail’ WM	WM	18	0.18
<i>dragon fly</i>	‘a brightly-coloured insect with a long thin body and transparent wings which lives near water’ (LDCE) WM	WM	no matches	0
<i>duck soup</i>	‘something easy to do’ (MW) WM	WM	2	0.02
<i>early bird</i>	‘an early riser’, ‘one that arrives early and especially before possible competitors’ WM	WM	27	0.27
<i>fat cat</i>	‘someone who has too much money, especially someone who is paid too much for their job – used to show disapproval’ WM	WM	2	0.02
<i>flat dog</i>	‘a nickname for a crocodile’ in Aus.E. WM	WM	no matches	0

Complex unit	Meaning and the pattern of conceptual interaction it is based on	Patterns grouped according to type	Number of hits in BNC	Frequency (instances per million words)
<i>goose-step</i>	'a way of marching by soldiers, in which they lift their legs quite high and do not bend their knees' WM	WM	1	0.01
<i>iron horse</i>	'a steam locomotive' (MW) WM	WM	6	0.06
<i>jailbird</i>	'someone who has spent a lot of time in prison' WM	WM	12	0.12
<i>jelly fish<sup>h</sup></i>	1: 'a free-swimming marine coelenterate that is the sexually reproducing form of a hydrozoan or scyphozoan and has a nearly transparent saucer-shaped body and extensible marginal tentacles studded with stinging cells' WM 2: 'a person lacking backbone or firmness' WM	WM	83	0.83
<i>lone wolf</i>	'someone who prefers to be alone' WM	WM	10	0.1
<i>catfish<sup>i</sup></i>	1: 'any of an order ( <i>Siluriformes</i> ) of chiefly freshwater stout-bodied scaleless bony fishes having long tactile barbels', metonymic modifier 2: 'a person who sets up a false personal profile on a social networking site for fraudulent or deceptive purposes', the whole is metaphoric	WM	231	2.35
<i>lucky dog<sup>j</sup></i>	'a lucky fellow/chap' WM	WM	2	0.02
<i>paddock chicken</i>	( <i>paddock</i> 'field' + <i>chicken</i> ) 'a wild rabbit' WM	WM	no matches	0
<i>monkey wrench</i>	'something that disrupts' WM	WM	4	0.04
<i>chicken feed</i>	'an amount of money that is so small that it is almost not worth having' WM	WM	9	0.09
<i>cold turkey</i>	'the unpleasant physical reaction that people experience when they suddenly stop taking a drug that they have become addicted to' WM	WM	17	0.17

Table 2 – continued

Complex unit	Meaning and the pattern of conceptual interaction it is based on	Patterns grouped according to type	Number of hits in BNC	Frequency (instances per million words)
<i>pit bull</i>	1: 'a muscular, short-haired, stocky dog (such as an American pit bull terrier or American Staffordshire terrier) of any of several breeds or a hybrid with one or more of these breeds that was originally developed for fighting and is noted for strength, stamina, and tenacity', 2: 'an aggressive and tenacious person' WM	WM	49	0.5
<i>rat race</i>	'strenuous, wearisome, and usually competitive activity or rush' WM	WM	27	0.27
<i>road hog</i>	'someone who drives badly or too fast without thinking about other people's safety' WM	WM	3	0.03
<i>dog collar</i>	'a stiff round white collar worn by priests'	WM	17	0.17
<i>scape-goat<sup>k</sup></i>	'one that bears the blame for others' WM	WM	165	1.68
<i>scaredy cat</i>	'an unduly fearful person' WM	WM	2	0.02
<i>sitting duck</i>	'someone who is easy to attack or easy to cheat' WM	WM	8	0.08
<i>snap dragon</i>	'a garden plant with white, red, or yellow flowers'	WM	no matches	0
<i>songbird</i>	1: 'a bird that utters a succession of musical tones', 2: 'a female singer' WM	WM	15	0.15
<i>watchdog</i>	1: 'a dog kept to guard property' 2: 'one that guards against loss, waste, theft, or undesirable practices' WM	WM	285	2.9
<i>white horse<sup>l</sup></i>	'a wave in the sea or on a lake that is white at the top'	WM	158	1.61

<sup>a</sup> It is also placed in Table 1.

<sup>b</sup> It is also listed in Table 1.

<sup>c</sup> Most of the BNC hits represent the literal uses of this composite expression. It is also placed in Table 1.

- <sup>d</sup> It is also listed in Table 1.
- <sup>e</sup> This complex unit is also listed in Table 1, where *horse* functions as a metonymic modifier.
- <sup>f</sup> Most of the uses in the *BNC* represent the literal sense of *beehive*.
- <sup>g</sup> The majority of the uses in the *BNC* represent the literal sense, which is why the high figures are not really informative of the productivity of the figurative use of *catfish*.
- <sup>h</sup> The high number of the *BNC* hits refers mostly to the literal use of this complex unit.
- <sup>i</sup> Most of the uses in the *BNC* represent the literal fish, which is why the high figures are not really informative of the productivity of the figurative use of *catfish*. This composite expression also appears in Table 2.
- <sup>j</sup> This composite expression is also listed in Table 1 because it may be regarded as either metaphor- or metonymy-based.
- <sup>k</sup> This complex lexical unit is also listed in Table 1 because it may possibly be regarded as metonymy-based as well.
- <sup>l</sup> The examples of use of some composite expressions (those displaying high figures) collected in the *BNC* are mostly literal.

The lexical material collected in the table shows that as far as the proportions of individual patterns of conceptual interaction are concerned, the composite expressions in which the whole unit is metaphorical (including metaphorical relation between constituents) outnumber those with a metaphorical modifier and there are only five examples of metaphorical heads and two cases of double metaphorical motivation. Frequency-wise, the number of hits in the *BNC* is relatively low as it varies from 0 to 633 with only 5 complex lexical units exceeding the number of 100 hits in the corpus. It should, however, be borne in mind that the high figures appearing in the *BNC* (not only in the case of *butterfly*, but also for other composite expressions listed in the tables 1, 2 and 3, such as *catfish*, *watchdog* or *beehive*) mostly refer to literal uses of respective complex lexical units and they do not necessarily indicate actual productivity of the figurative senses. In what follows I will discuss some representative examples of metaphorical conceptualization in animal-related composite expressions.

### 5.1. The conceptual metaphor PEOPLE ARE ANIMALS

It seems that one of the possible targets in metaphor-based complex units is people, and the conceptual metaphor formalized as PEOPLE ARE ANIMALS can be viewed as a considerably productive mechanism leading to the creation of composite structures. In traditionally viewed metaphoric endocentric compounds the conceptually complex target is accessed through a lexically and conceptually complex expression belonging to a different cognitive domain. In the case of *road hog* ‘someone who drives badly or too fast without thinking about other people’s safety’, the conceptual head ‘driver’ is accessed through the general conceptual metaphor HUMANS ARE ANIMALS. It seems that the same logic can be applied to the analysis of a number of other complex units collected in table 2 above. For example, the complex unit *sitting duck* ‘someone who is easy to attack or easy to cheat’ (*LDCE*) is based on a metaphorical

mapping between people and ducks. Thus, the comparison is drawn on the relation between a *duck* (source domain), which, while sitting on a riverbank, is an easy target for a hunter, and a vulnerable easy to attack or cheat person (target domain).

Notice that in this type of complex units, that is those based on metaphor, the animal term is usually the right-hand constituent, or in some infrequent cases (e.g. *chicken hawk*) both elements are animal terms. The left-hand element, while performing the function of a modifier of the animal-specific head, can be a noun (e.g. *jailbird*), an adjective (e.g. *cold fish*) or (present) participle (*sitting duck*). These composite expressions are underlain by the general conceptual metaphor formalized as HUMANS ARE ANIMALS or possibly its variations as in the case of *foxtrot* ‘a formal dance which combines short quick steps with long slow steps, or a piece of music for this dance’ based on the submetaphor HUMAN ACTION IS ANIMAL ACTION.

It is worth noticing that the complex lexical unit *chicken hawk* represents the group of the so-called appositional (coordinative) compounds where the construction is a hyponym of both constituents. The construction in hand is an example of double metaphorical motivation. The meaning of this composite expression is based on an interrelation between two submetaphors of the more general PEOPLE ARE ANIMALS conceptual metaphor, that is A COWARDLY PERSON IS A CHICKEN underlying the left-hand constituent and A POLITICIAN WHO BELIEVES IN MILITARY INTERVENTION IS A HAWK motivating the right-hand element. This pattern of conceptual interaction is portrayed below:

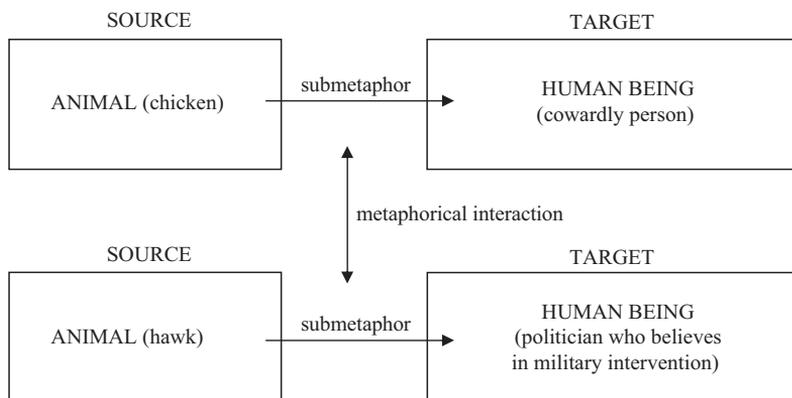


Figure 1. The conceptual interaction in *chicken hawk*

In turn, the complex unit *jailbird* ‘someone who has spent a lot of time in prison’, may be interpreted as consisting of a metaphorical head and a metaphorical interaction between both constituents. The general conceptual

metaphor HUMANS ARE ANIMALS is realized by the submetaphor A PRISONER IS A CAGED BIRD where a series of mappings are established between the source domain BIRD and the target domain PRISONER.

## 5.2. The metaphorical relation: ANIMAL – (ANOTHER) ANIMAL

The metaphorical complex units underlain by the general conceptual metaphor ANIMAL IS (ANOTHER) ANIMAL include, among others, such cases as Polish *boża krówka* ‘lit. divine cow (diminutive) > lady bird’. Here, the metaphorical motivation behind the right-hand constituent seems to emerge from the comparison of aesthetic resemblance and a place of habitat of *krówka* ‘cow (diminutive)’ and the insect called *biedronka* ‘lady bird’. Since both creatures spend most of their time in meadows and their bodies are covered by spots (lady birds) or they are spotted (cows), the composite expression *boża krówka* ‘lit. divine cow (diminutive)’ started to be used with reference to the innocent and attractive insects known as lady birds.

Other examples in this set include English *lady bird* ‘a small round beetle (a type of insect) that is usually red with black spots’, *dragon fly* ‘a brightly-coloured insect with a long thin body and transparent wings which lives near water’, *flat dog* ‘a nickname for a crocodile’ in Australian English (see Richards 2013: 134) and *paddock chicken* (*paddock* ‘field’ + *chicken*) ‘a wild rabbit’ (see Richards 2013: 221).

In all the above examples, the right-hand element realized by an animal term provides metaphorical mental access to another animal-specific domain (such as BIRD, FLY, DOG, CHICKEN) modified by nouns (e.g. *lady*, *dragon*) or adjectives (e.g. *flat*), which seem to specify or narrow the semantic range of the head.

## 6. Metaphor- and metonymy-based animal-related complex units

The table displayed below presents the scope of animal related complex units underlain by a metaphor-metonymy interrelation. The following types of conceptual patterns are identified:

metonymic modifier, metaphorical head – 8 cases

metaphorical modifier, metonymic head – 8 cases

Table 3. Animal-related complex lexical units based on metaphor-metonymy interaction

Complex unit	Meaning and the pattern of conceptual interaction it is based on	Number of hits in BNC	Frequency (instances per million words)
<i>dog-leg</i>	'a place where a road, path etc suddenly changes direction' metaphorical modifier, metonymic head	10	0.1
<i>alpha pup</i>	'a kid deemed to be the coolest in their group' (FFD 2010) metonymic modifier, metaphorical head	no matches	0
<i>birdbrain</i>	'a silly person' metaphorical modifier, metonymic head	1	0.01
<i>dog-ear</i>	'the turned-down corner of a page especially of a book' metaphorical modifier, metonymic head	no matches	0
<i>fire dog</i>	'andiron: one of a pair of iron supports for burning logs in a fireplace' metonymic modifier, metaphorical head	no matches	0
<i>foxglove</i>	'a tall plant that has pink or white flowers shaped like bells growing up its stem' (CDE) metaphorical modifier, metonymic head	28	0.28
<i>hobby horse</i>	1: 'a subject that someone has strong opinions about and that they talk about too much', 2: 'an old-fashioned toy made of a horse's head on a stick' metonymic modifier, metaphorical head	24	0.24
<i>pig's ear</i>	'something that has been badly or clumsily done' metaphorical modifier, metonymic head	no matches	0
<i>pigpen<sup>a</sup></i>	'a dirty slovenly place' metaphorical modifier, metonymic head	no matches	0
<i>pigtail</i>	'a bunch of hair or one of two bunches on either side of the face, worn loose or plaited' metaphorical modifier, metonymic head	24	0.24
<i>snakebite</i>	'a drink made of cider and beer' metaphorical modifier, metonymic head	14	0.14

Complex unit	Meaning and the pattern of conceptual interaction it is based on	Number of hits in BNC	Frequency (instances per million words)
<i>top dog</i>	'a person, group, or thing in a position of authority especially through victory in a hard-fought competition' metonymic modifier, metaphorical head	57	0.58
<i>paper tiger</i>	'an enemy or opponent who seems powerful but actually is not' metonymic modifier, metaphorical head	15	0.15
<i>beeline</i>	'a straight direct course' metonymic modifier, metaphorical head	19	0.19
<i>golden goose</i>	'something that is a very good source of money or business' ( <i>MW</i> ), metonymic modifier, metaphorical head	9	0.09
<i>cow parsley</i>	'a coarse erect biennial herb ( <i>Anthriscus sylvestris</i> ) of the family <i>Umbelliferae</i> that is widely distributed in the Old World and an introduced weed in eastern North America' ( <i>MW</i> ), metonymic modifier, metaphorical head	35	0.36

<sup>a</sup> Both *pigpen* and *pigtail* are also listed in Table 1.

The data collected in the table show that their frequency of appearance in the corpus is even lower in comparison with the material from Table 1 and 2, with no composite expressions exceeding the number of 100 hits in the *BNC*. As far as the types of conceptual interaction are concerned, metonymic modifiers outnumber metaphorical ones, while metaphorical heads are outnumbered by metonymic profile determinants.

Let us proceed to a discussion of a few representative cases of the metaphor-metonymy interface. As suggested by Benczes (2006: 175), *fire dog* is an example of a creative compound where the right-hand element (*dog*) is understood metaphorically, while the modifier *fire* is used in a metonymical sense. In this case *fire* is metonymically conceived of as an object constituting of logs. It seems that the conceptual metonymy RESULT FOR CAUSE is at work here, where *fire* stands for the burning logs. Additionally, another metonymy could be at work in the modifying element of the compound (*fire*), that of CONTENTS FOR CONTAINER (Radden and Kövecses 1999: 41), where the fire (the content) stands for the fireplace (the container).

Let us now consider Geeraerts' (2003: 456) example of Dutch *shapenkop* 'sheep's head' > 'stupid person'. In this case the metaphor-metonymy interface

seems to work in the following way. The first step involves the working of a metaphor which maps a (stupid) sheep's head onto a human head, while the second step is a PART-FOR-WHOLE metonymy thanks to which a stupid head stands for 'a stupid person'.

It seems that the Polish examples of *barania głowa/barani łeb* 'ram's head' > 'stupid person', *dupa wołowa* 'ox's ass' > 'a prat'/ 'a stupid person' and *ośle uszy* 'dog ears' > 'folded-down corners of a page' are based on exactly the same pattern of conceptual interaction as English *dog-ear* 'a folded-down corner of a page', *pig's ear* 'something that has been badly or clumsily done' and *pigtail* 'a bunch of hair or one of two bunches on either side of the face, worn loose or plaited'. One may argue that these complex units also stem from metaphor-metonymy interaction where one of the components, the one realized as an animal term, is based on conceptual metaphor, while the metonymically conditioned element is realized as a part of the body.

As far as the mechanism of metaphonymy is concerned, Mendoza and Diez (2003: 522) posit that "[...] because of its domain-internal structure, metonymy is always subsidiary in conceptual interaction to metaphor, i.e., metonymy always takes place within the source or the target domain of the metaphor." The authors decide to make use of the concepts of source-in-target and target-in-source metonymies in order to account for the patterns of metaphor-metonymy interaction. In the case of the compound *birdbrain* 'a silly person' the target-in-source metonymy PART OF BODY (brain) stands for CULTURALLY ASSOCIATED FUNCTION (intelligence) within the target domain of the metaphor HUMANS ARE ANIMALS. This pattern of interrelation between metaphor and metonymy is interpreted as the metonymical reduction of the metaphorical target domain: specifically, the meaning of the term *brain* is restricted to the brain's function as the seat of intelligence. This kind of interaction is presented below:

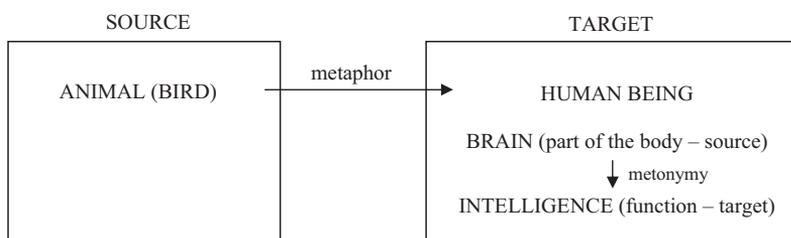


Figure 2. Conceptual interaction in *birdbrain*

In turn, the composite expression *fire-dog* discussed above can also be approached from a different perspective. It is possible to interpret it as an example of Mendoza and Diez's (2003) metonymical expansion of the metaphorical target domain. One may say that in this complex lexical unit, the source-in-target metonymy CONTENTS (fire) FOR CONTAINER (stand)

occurs within the target of the metaphor IRON STAND IS DOG, providing additional information about its target domain, that is expanding it: through the working of a metonymic projection the function of the iron stand is viewed as protecting against the fire burning in the fireplace. This interaction between metaphor and metonymy is presented in Figure 3 below.

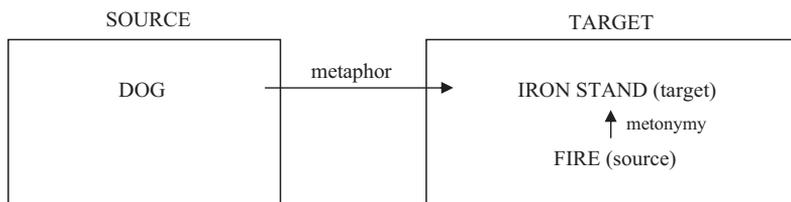


Figure 3. Conceptual interaction in *firedog*

Let us now focus on examples of complex animal-related units which illustrate the pattern with metonymy-based modifier and metaphor-based profile determinant (head, right-hand element). In the case of *alpha pup* ‘a kid deemed to be the coolest in their group’ (Benczes 2006: 145), the profile determinant, that is the concept of PUP is motivated by the conceptual metaphor PEOPLE ARE ANIMALS, while the metonymic projection FORM (alpha) FOR CONCEPT (primariness) can be identified within the conceptual modifier of the compound. Other examples representing the type metonymy-based modifier + metaphorically conditioned head (animal-term) are *paper tiger*, *top dog* and *hobby horse*. However, an optional analysis, suggested by one of the reviewer’s of this paper is the following. The target sense of the modifier seems to be based on the metaphoric mapping ALPHABET IS A SCALE OF QUALITY with an entailment: ALPHA IS THE HIGHEST POINT ON THE SCALE OF QUALITY (i.e. it designates the BEST members of the set of values). In this respect one may also consider other expressions based on the same mapping, e.g. *alpha male*, *alpha female*.

It seems that such complex units as *dog-ear* ‘the turned-down corner of a page especially of a book’ (*MW*), *dog-leg* ‘something having an abrupt angle; a sharp bend (as in a road)’ (*MW*) can be approached in the same way with reference to metaphor-metonymy interaction. In the case of *dog-ear*, we establish a metaphorical mapping between the source domain of ANIMAL (dog) and the target domain of INANIMATE ENTITY (book). The relation between the two additional elements of the metaphorical target domain is metonymic based on a part-whole relation: EAR is a part of an animal and metonymically a corner of a book page. However, another possible interpretation of this relation might be the following. *Ear* is a metaphoric source which still belongs to the domain of DOG and as such is mapped (as a submetaphor) on the concept of PAGE in the domain of BOOK. The pattern of conceptual interaction understood as a metonymic expansion of the metaphorical target can be diagrammed in the following way:

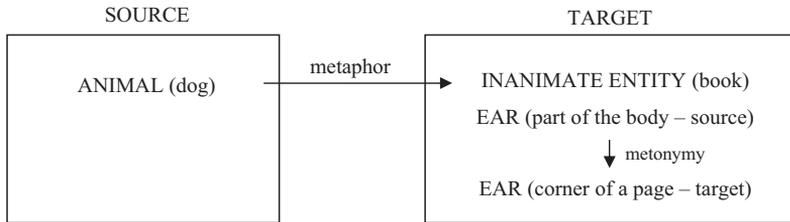


Figure 4. Conceptual interaction in *dog-ear*

A similar analysis can also be proposed for such complex units as *pig's ear*, *pigtail*, *birdbrain*, *hobby horse* and *foxglove*. In the case of *foxglove* 'a tall plant that has pink or white flowers shaped like bells growing up its stem' (CED), the OED explains that the flower shape is that of the finger of a glove which may result from the working of a one-shot image metaphor (in the sense of Lakoff and Turner 1989). The left-hand element (*fox*) is metaphorically based on resemblance between elements and plants, while the right one is accessed metonymically through a relation like a PART (of an animal) FOR WHOLE (plant) or GLOVE FOR COVERING, the relation between the two constituents is metaphorically based on the general PLANTS ARE ANIMALS conceptual metaphor.

### 6.1. The metaphorical/metonymic relation:

#### INANIMATE/ABSTRACT ENTITIES – ANIMALS

Metaphor- or metonymy-based animal-related composite expressions used with reference to inanimate or abstract entities can be exemplified by, for example, *foxtrot* 'a formal dance which combines short quick steps with long slow steps, or a piece of music for this dance' based on the submetaphor HUMAN ACTION IS ANIMAL ACTION or *turkey trot* 'a ragtime dance danced with the feet well apart and with a characteristic rise on the ball of the foot followed by a drop upon the heel'<sup>8</sup> based on the same submetaphor HUMAN ACTION IS ANIMAL ACTION.

The analysis of the examples listed in Table 2 shows that in the majority of cases an animal term performs the function of a modifier (e.g. *fox*, *turkey*, *puppy*), while in a few others it represents a head (e.g. *dog*, *horse*, *cow*). In the case of the complex units from the first group, the animal-specific modifier is metaphorically conditioned. Specifically, *puppy fat* and *puppy love* are based on the submetaphor PEOPLE ARE DOGS (Benczes 2006: 94) and more specifically CHILDREN ARE PUPPIES where characteristic properties of the animals

<sup>8</sup> According to *MW*, the first known use of *turkey trot* goes back to 1908.

in question, such as the fact that they are affectionate towards people (hence *puppy love*) and that they are plump and they lose fat as they grow (hence *puppy fat*), are mapped onto the target domain of young people (children). It is worth emphasizing that although the PEOPLE ARE ANIMALS metaphor usually emphasizes such qualities as objectionability and undesirability (see Kövecses 2002), in the case of *puppy fat* and *puppy love* the conceptualization of both the source (*puppy*) and the target (child) is by all means evaluatively positive<sup>9</sup>, hence the analysed lexical units acquire an affectionate character. In the case of *hen party* and *stag party*, the modifying elements highlight the conventional gender characteristics of women and men, respectively. The element *hen* is frequently associated with domesticity and motherhood, but also domination of women over men (e.g. *hen-pecked husband*). In turn, *stag* may be associated with a mating season.

## 6.2. The metaphorical/metonymic relation: PLANTS – ANIMALS

In this category of composite expressions, the head is based on metaphorical resemblance between a source animal and a target plant as in the case of *snap dragon* ‘a garden plant with white, red, or yellow flowers’ which goes back to the 16<sup>th</sup> century. It is so named because the flowers, which are claimed to look like a dragon’s head, have a “mouth” which snaps shut if squeezed open and then released. In turn, in the case of Polish *lwia paszcza* ‘lit. lion’s maw > snap dragon’, the left-hand element is based on metaphor, while the right-hand element is metonymically conditioned by a PART FOR WHOLE relation where a part of an animal stands for the whole plant.

It seems that both *snakehead/turtlehead*: ‘any of a genus (*Chelone*) of perennial North American herbs of the snapdragon family with spikes of showy white or purple flowers’ and *foxglove* ‘the popular name of *Digitalis purpurea*, a common ornamental flowering plant’ (see Kiełtyka 2016: 66) are based on metaphor-metonymy interaction, like Polish *lwia paszcza* discussed above. The left-hand element (*snake, turtle, fox*) is metaphorically based on resemblance between elements and plants, while the right one is accessed metonymically through a relation such as a PART (of an animal) FOR WHOLE (plant) or GLOVE FOR COVERING, the relation between the two constituents is metaphorically based on the general PLANTS ARE ANIMALS conceptual metaphor.

<sup>9</sup> However, from the point of view of the teenager whose feelings are being dismissed, it may seem patronising and unsympathetic and, therefore, not necessarily unequivocally positive.

### 6.3. The metaphorical/metonymic relation: LIQUIDS – ANIMALS

Animal-related complex units used with reference to liquids are represented by *snakebite* ‘a drink made of cider and beer’ and *snake oil* ‘any of various substances or mixtures sold (as by a traveling medicine show) as medicine usually without regard to their medical worth or properties’. In the case of the former, the left-hand element is metaphorical, that is based on the conceptual mappings between the source domain SNAKE and the target domain DRINK, while the head is based on the metonymical relation of the type A BEVERAGE THAT BITES YOUR TONGUE WHEN YOU DRINK IT FOR A SNAKE’S BITE. Alternatively, however, one might analyse this composite expression as an example of metaphor in metonymy. Thus, the metaphor DRINKING X IS SNAKEBITE (i.e. being bitten by a snake) with a submetaphor BEVERAGE X IS SNAKE’S VENOM seems to operate within the metonymy CAUSE (OF SENSATION) FOR RESULT (OF THE SENSATION). As far as the composite expression *snake oil* is concerned, one may posit the working of a metonymic projection A LIQUID OBTAINED FROM A SNAKE’S BODY TO BE USED AS MEDICINE FOR SNAKE OIL.

### 6.4. The metaphorical/metonymic relation: ABSTRACT CONCEPTS – ANIMALS

Animal-related composite expressions used with reference to abstract concepts may be exemplified by *horse sense* ‘strong common sense’ or *shaggy dog story* ‘a story with an absurd ending’. The analysis of the complex unit *horse sense* shows that the left-hand constituent is metaphorically conditioned, which is in accord with the definition proposed by the *OED*, according to which this complex unit is used with reference to ‘a coarse, robust, and conspicuous form of shrewdness often found in ignorant and rude persons; plain, practical good sense’. One may hypothesize that the metaphorical meaning of the element *horse* is interpreted as ‘coarse, plain’. In turn, in the case of *shaggy dog story*, the complex unit *shaggy dog* is based on a metonymic projection that can be formalized as ANIMAL FOR ITS CHARACTERISTIC ATTRIBUTE.

## 7. Animal-related surnames and place names

From the historical point of view, surnames of the type *Shepherd* ‘sheep + herd’ can be viewed as compounds/complex lexical units. As far as its semantic motivation is concerned, the complex lexical unit *shepherd* ‘sheep tender’ derived from *sheep* + *herd* can be analysed in terms of the metaphorical relation between the two constituents where the source and the target represent two different cognitive domains (ANIMAL + PERSON), while its use as a surname is

motivated metonymically ANIMAL-RELATED OCCUPATION FOR PERSON ASSOCIATED WITH THAT OCCUPATION. Thus, the surname *Shepherd* results from the metonymic projection ANIMAL-RELATED OCCUPATION FOR NAME OF THE PROFESSIONAL GROUP OF PEOPLE which leads to another metonymic formation, that of NAME OF THE PROFESSIONAL GROUP OF PEOPLE FOR SURNAME OF A MEMBER OF THAT GROUP. The following complex surnames, obtained from Cottle (1967), can be classified as derived from animal-related occupations:

*Calverd/Calvert* ‘calf-herd’,  
*Colthard/Colthart* ‘colt-herd’,  
*Cowherd* ‘cow-herd’,  
*Gossard* ‘goose-herd’,  
*Hoggard, Hoggart(h), Hoggett* ‘hog-herd’,  
*Oxnard* ‘herder of oxen’.

In the case of *Shepperton* ‘shepherds’ town’, the element *-ton*, which corresponds to OE *tun* ‘village’ or ‘town’, may be treated as a non-metonymic designation of places, which is why it is commonly found in toponyms. The animal-specific left-hand constituent is used to designate a given place in a unique way by supplying it with characteristic properties through the working of metonymy. Other animal-specific place names that can be accounted for in the same manner include:

*Bickerton* ‘beekeepers’ place’,  
*Calton* ‘calf farm’,  
*Cawton* ‘calf farm’,  
*Catton* ‘(wild) cats’ valley’,  
*Darton* ‘deer enclosure’,  
*Dufton* ‘place with doves’,  
*Fullerton* ‘bird-catchers’ place’,  
*Lambton* ‘lamb farm’,  
*Laverton* ‘place with larks’,  
*Notton* ‘wether-sheep/cattle farm’,  
*Oxton* ‘place/farm where oxen are kept’.

### **7.1. Animal-related morphologically complex surnames in which both constituents are metonymic/metaphorical**

In this type of surnames, the right-hand element designates a salient building, business or estate, while the left-hand constituent designates its distinguishing property. This category of morphologically complex surnames in which both elements are metonymic, or possibly metaphoric, can be exemplified by such

cases as *Hanworth* ‘cock enclosure’ (from Old English *hana* ‘cock’ and *worth* ‘enclosure’), as well as those listed below where one witnesses another productive head leading to the derivation of animal-specific surnames, the element *-ford* ‘a shallow place in a river or stream allowing one to walk or drive across’. Here one can see the working of a metonymic chain (see Hilpert 2007): ANIMAL (LIVING OR RAISED IN PLACE X) FOR DISTINGUISHING PROPERTY (ATTRIBUTE) OF A PLACE X > PLACE X FOR PERSON ASSOCIATED WITH THAT PLACE.<sup>10</sup> Consider the following examples:

*Catford* ‘(wild) cats’ ford’,  
*Cranford* ‘ford with cranes’,  
*Gosford* ‘goose ford’,  
*Handford* ‘ford where there were cocks’,  
*Hartford* ‘stag ford’,  
*Horsford* ‘ford that can be crossed on horseback’,  
*Oxford* ‘ford with oxen’.

One may also find cases of animal-related complex surnames in which the metonymic right-hand constituent designates a geographical landmark as in *Hanwell* ‘cock spring or stream’ (from Old English *hana* ‘cock’ and *wylle* ‘spring or stream of water’) and as such seems to be based on the metonymy SALIENT GEOLOGICAL OR GEOGRAPHICAL PART FOR PLACE. The left-hand constituent in each of the surnames listed below, realized as an animal term, designates metonymically a distinguishing property of the noun it modifies (i.e. *well*).

*Barwell* ‘boar stream’,  
*Cranwell* ‘pool/spring with cranes’,  
*Hartwell* ‘stags’ spring/stream’,  
*Hauxwell* ‘spring/stream with hawks’.

As far as referential metonymy responsible for place name formations is concerned, Bierwiazzonek (2013: 149) argues that “once the name of a place has been established, it often serves as the vehicle for other referential metonymies, especially with respect to the inhabitants of the place.” Thus, one may emphasise the working of the metonymic pattern (chain) PLACE FOR NAME OF A PERSON ASSOCIATED WITH THAT PLACE > NAME OF A PERSON ASSOCIATED WITH A PLACE FOR SURNAME.

<sup>10</sup> For more examples of animal-related surnames see Kieltyka (2018).

## 8. The historical dimension and the figurative vs. literal conceptualization of complex lexical units

As for the diachronic-etymological perspective concerning the rise of animal-related complex lexical units, it might be interesting to determine which of the composite expressions analysed in this paper are the earliest attested ones. However, although this aspect goes beyond the present scope of the research, let me emphasise the fact that some of the complex units analysed here go back at least to the 17<sup>th</sup> century. For example, according to *MW*, the first known use of *black sheep* was recorded as early as in 1657, that of *lame duck* in 1761, *dark horse* in 1831, *paper tiger* goes back to 1836, *road hog* to 1887, while *top dog* to 1900. Another, even more important, reason why the historical context is of vital importance in research on animal-related complex lexical units is that frequently diachronic etymological evidence may be the only decisive factor in determining the metaphorical or metonymic motivation behind the rise of a given composite expression – see the discussion of *chicken pox* in section 4.

In turn, with reference to the figurative use of animal-related composite expressions, it might be relevant to establish the proportion to which the analysed units are employed only figuratively or both literally and figuratively. In this respect, the analysis shows that in a vast majority of cases the targeted composite expressions are used only figuratively, e.g. *top dog*, *road hog*, *lucky dog*, *hen party*, *jailbird*, to mention but a few, convey exclusively figurative senses. On the other hand, some of the complex units targeted in this paper, e.g. *bearskin*, *butterfly*, *pigpen*, *dog collar*, and a few others, can be used both literally and figuratively.

## 9. Conclusions

In my research I have analysed a corpus of more than 100 animal-related morphologically complex units (only a representative sample of which is listed in the paper) used figuratively with reference to such targets as people, plants, other animals, inorganic entities and abstract concepts, which were extracted from a number of lexicographic sources (e.g. *Oxford English Dictionary*, *Collins English Dictionary*, *Merriam-Webster Dictionary*, *Longman Dictionary of Contemporary English*). The analysis shows that the most common targets of figurative conceptualization are either people or inorganic entities, while such domains as plants and other animals are in the minority.

I have investigated the frequency of use of the collected linguistic data in the *British National Corpus (BNCweb)*. The number of hits for various complex units listed in the *BNC* varies from 0 (for, inter alia, *dog-ear* ‘the turned-down corner of a page especially of a book’ and *dog Latin* ‘incorrect or ungrammatical Latin’) to 633 (for *butterfly* ‘an insect belonging to any of those diurnal species of lepidoptera, or scaly-winged flies, which have knobbed antennæ, and carry

their wings erect when at rest' (*OED*), 'something that resembles or suggests a butterfly *especially*: a person chiefly occupied with the pursuit of pleasure'). The composite expressions whose frequency of appearance in the corpus is up to 100 hits represent a vast majority, while those whose frequency of use is over 100 hits are in the minority. The conclusion that one may draw is that although animal-related complex units are relatively common in spoken English, their productivity in the texts (mainly books and periodicals) collected in the corpus consulted (*BNC*) is not too impressive. Additionally, one should not overlook the fact that – as already mentioned before – the high figures appearing in the *BNC* (not only in the case of *butterfly*, but also for other composite expressions listed in the tables 1, 2 and 3, such as *catfish*, *watchdog* or *beehive*) mostly refer to literal uses of respective complex lexical units and they do not necessarily indicate actual productivity of the figurative senses.

As far as the animal names involved are concerned, they mostly represent mammals (e.g. dog, cat, horse), birds (e.g. turkey, hen, chicken) and insects (e.g. fly, butterfly). On the other hand, in terms of the patterns of conceptual interaction involved, animal terms can occupy the position of the head of a complex unit (e.g. *top dog*) or the position of the modifier (e.g. *monkey business*), while the composite expressions (including animal-specific surnames) in which they participate are based on metaphor, metonymy or various interrelations between both mechanisms. As the analysis shows, in more or less half of the analysed complex lexical units, animal terms occupy the position of the modifier and the metaphorically motivated composite expressions outnumber those that are metonymically conditioned.

Since this is merely a pilot study, a part of a larger whole, I have only signalled the complexity of the analysed problem and I have not been able to exhaust the issue of the productivity of metaphor-metonymy patterns responsible for the rise of animal-related complex lexical units. This aspect of the research, as well as the historical context behind the motivation for the rise of such composite expressions, needs further investigation.

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