Metaphors in the Description of ´Eagles´ and ´Bears´ in National Geographic Headlines 1888-2008: a Historical Perspective

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Abstract: The article investigates the evolving metaphorical style of *National Geographic* headlines (1888-2008) in the description of 'eagles' and 'bears' from the historical perspective. All the metaphors analysed in the article seem to be context-induced. The stylistic analysis also demonstrates that metaphors and metonymies have some notable functions to fulfil in the headlines and that they bring about quite a few cognitive, pragmatic and stylistic effects. Metaphors and metonymies (1) foreground a pragmatically relevant aspect of the article to grab the reader's attention and arouse the reader's interest, (2) guide pragmatic inferencing in text interpretation (by making reference to the background knowledge, the immediate physical setting and the social or cultural contexts), (3) describe the immediate physical setting or the immediate entity of the text, (4) create referential variety and enhance cohesion and coherence.

Keywords: context-induced metaphor, local and global context, metaphor and metonymy, multimodal metaphor.

Introduction

The metaphorical style of *National Geographic* (1888-2008) headlines in the description of 'eagles' and 'bears' will be analysed from the historical perspective. When words are used with metaphoric sense, one field or domain of reference is carried over or mapped onto another on the basis of some perceived similarity between the two fields. The concept of metaphor also denotes rhetorical figures of speech that achieve their effects via association, comparison and resemblance such as antithesis, hyperbole, metonymy, synecdoche and simile, which are all species of metaphor. In this article the idea of metaphors will be viewed broadly including those figures of speech.

1. The theory of metaphor and metonymy

Cognitive linguists claim that metaphor is pervasive in everyday life, not just in language but also in thought and action. Within Lakoff and Johnson's (1980) Conceptual Metaphor Theory (CMT), metaphors, as expressed in language, are not seen as stylistic ornaments, but as evidence for the fact that thinking about, and understanding, the world outside our organisms,

as well as the working of our bodies, involves metaphoric processes. CMT claims that this understanding is possible through a system of related concepts, some of which are emergent, some structured metaphorically, and some both emergent and structured metaphorically.

A metaphor is fundamentally a kind of mental mapping from which certain patterns of conventional and novel metaphorical language arise. These regular patterns of metaphorical thought appear as a response to the co-activation of two domains resulting in a recruitment of neural circuitry linking them. Metaphor is an interaction between two concepts that enables us to interpret one of them in terms of the other. Lakoff and Johnson's (1980) basic thesis about metaphor is that its function is to enable us to interpret concepts (especially abstract concepts) in terms of familiar, everyday cognitive experiences.

A distinction needs to be made between a metaphor and a metonymy. In cognitive semantics metonymy has long been considered a conceptual tool that operates within conceptual/semantic structures (domains, scripts, schemas, etc.). In this view the most widespread definition is – metonymy is a cognitive process in which one conceptual entity, the vehicle, provides mental access to another conceptual entity, the target, within the same idealized cognitive model (Kövecses 2002). Two broad perspectives for demarcating metonymy have emerged in cognitive semantics: the domain-related approach (Kövecses 2002) and the prototype-related approach (Dirven 2002). In the domain-related approach metonymy is seen as a shift of meaning within one domain, or background knowledge for representing concepts. One important aspect of domains is that often more than one domain joins together in a given entity, giving rise to a so-called 'domain matrix'. Hence, the definition of metonymy is rephrased as a metonymic mapping that occurs within a single domain matrix, not across domains (or domain matrices).

Metonymy also seems to involve 'domain highlighting' since it makes primary a domain that is secondary in literal meaning. As to the representation of the conceptual relationship: metaphor is represented as A is B (target is source) whereas metonymy is characterised as A for B (source for target). Yet, in spite of its popularity, the domain approach has been the object of much criticism and this is why different scholars have focused on contiguity rather than domains or domain matrices (Riemer 2001). In addition, Taylor (1995) claims that all metaphors may need underlying metonimisations, or, in other words, that they are dependent on at least a prior metonymic conceptualisation. Other linguists (Croft 1993, Barcelona 2000)

view metaphor-metonymy as a continuum with the intermediate notion of metonymy-based metaphors.

According to Barnden (2010), clear cases of metaphor and metonymy can be at the same position in the multidimensional space; and sometimes the use of a source/target link can be simultaneously metonymic and metaphorical. In the most radical – the eliminativist – approach to metaphor and metonymy, these two notions are just pragmatically useful labels in approximate discussions, not legitimate foci for detailed technical attention.

2. Metaphors and context

Context seems to play a very important role in the understanding of metaphorical language. According to Kövecses (2005), when ordinary people conceptualize an idea metaphorically, they do so under two kinds of pressure called the 'pressure of coherence', the pressure of their bodily experiences, and the 'pressure of the context' that surrounds them. In more recent studies Kövecses (2008) suggests that when we speak and think metaphorically, we are influenced by these two factors and that the effect of context on the processing of metaphorical language is just as pervasive, if not more, as that of the body.

For the sake of clarity, Kövecses (2010) distinguishes two basic kinds of context: global and local. By *global context* he means the contextual factors that affect all members of a language community when they process metaphors. Global context includes a variety of different contextual factors such as social and cultural ones. By *local context* he means the immediate contextual factors such as physical setting, knowledge of the main entities in the discourse, the immediate cultural context, the immediate social setting, and the immediate linguistic context. Local and global contexts are assumed here to form a continuum from the immediate local contexts to the most general global ones.

The most significant element of criticism of Conceptual Metaphor Theory was the suggestion that it ignores the study of metaphor in the context in which metaphorical expressions occur, namely in real discourse. It has to be stressed that context is very important in the creation of novel or conventional linguistic metaphorical expressions, *visual metaphors*

and *multimodal metaphors*[1]. According to Kövecses (2010), there is yet another form of metaphorical creativity in discourse – creativity induced by the context in which the creation and processing of metaphors takes place. This kind of creativity has not been systematically explored in the cognitive linguistic literature on metaphors. Kövecses (2010) terms the creativity that is based on the context of metaphorical conceptualization *context-induced creativity* and the metaphors that result from the influence of the context on that conceptualization – *context-induced metaphors*. He also distinguishes five contextual factors that commonly produce unconventional and novel metaphors: (1) the immediate physical setting, (2) what we know about the major entities participating in the discourse, (3) the immediate cultural context, (4) the immediate social setting, and (5) the immediate linguistic context itself. Since the speaker and the listener share all of these factors, the contextual factors facilitate the development and mutual understanding of the discourse.

3. The characteristics of journalistic headings

Headline writers use a wide range of devices to create a very specific style, which is sometimes called 'headlinese' (Verdonk, 2002: 4). Their one-liners must put briefly the main point of the news story they relate to and at the same time capture the reader's attention. Therefore, the essential feature of headlines is their typographical make-up. They are usually in a larger and bolder typeface than the articles they introduce. As a result of the size of the print and the restricted space available in the layout of the page, *ellipsis* (which means that some words have been missed out) is very often a feature of the language of headlines. The result is a succinct, pungent style, which has a direct and powerful effect on the reader. Usually, the omissions can be recovered or guessed from the context.

In making a stylistic analysis, we are not so much focused on every form and structure in a headline/text, as on those which stand out in it. Such conspicuous elements hold a promise of stylistic relevance and thereby arouse the reader's interest or emotions. In stylistics this psychological effect is called *foregrounding* (Verdonk, 2002: 6), a term which has been borrowed from the visual arts. Such fore-grounded elements often include metaphors and

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[1] The notion of *visual metaphors* refers to metaphors expressed/conveyed by means of photographs; *multimodal metaphors*, in turn, are conveyed by blending of domains from different modes, e.g., visual and verbal, or visual and acoustic.

metonymies. It is also important to mention that the style of headlines does not arise out of a vacuum but its production, purpose and effect are deeply embedded in the particular context in which both the writer and the reader of the headline play their distinctive roles. Consequently, the linguistic choices and the use of metaphors are inevitably motivated by the socio-cultural situation the writer is working in.

4. Metaphors in *National* Geographic headings

It is possible to divide metaphors into two categories: *conventional metaphors* and *novel metaphors* (Bowdle and Gentner 2005). Conventional metaphors are those that are invoked so frequently that native speakers consider their linguistic expressions to be institutionalized linguistic units. As Gibbs (1999: 146) puts it, *conventional metaphorical mappings pre-exist as independent entities in long-term* memory.[2] Extensions of conventional metaphors in turn are based on these conventional metaphorical mappings, but they have a different linguistic form (though they are related in meaning with the conventional metaphors). Novel metaphors involve new or unusual mappings between two conceptual domains. Similarly, some metonymies are conventional while others are novel. Basically, the distinction between conventional and novel metaphors rests upon the amount of cognitive effort required on the part of the interpreter. Conventionality or novelty of figuration is a matter of degree.

It is beyond doubt that *context* and background knowledge play a very important role in the analysis of the metaphorical language of *National Geographic* headings. In fact, both global and local contexts are meaningful in the creation and processing of *National Geographic* metaphors. The analysis of headings and subheadings of *National Geographic* articles presented here encompasses all the articles (published from 1888 to 2008) whose topics are related to two categories of animals: 'eagles' and 'bears'. The choice of the articles is determined by the fact that both 'eagles' and 'bears' are representative animals whose life is often described in *National Geographic* articles. More specifically, 17 articles devoted to the description of 'eagles' and their lives and thirty articles devoted to the description of 'bears' and their life have been found and analysed. It has to be mentioned that the classification of metaphors into conventional ones, their extensions and novel ones, presented below, is based

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[2] Więcławska (2011) analyses conventional metaphors as motivating factor in the secondary meaning construal.

on the results of a survey conducted by the author among 30 students and lecturers of the University of Minnesota, USA.

4.1 'Eagles' in National Geographic headings

In the heading of the first article whose subject matter is the life of eagles one can identify one double conventional metaphor; this heading reads 'Exploring the unknown <u>corners of the</u> <u>'hermit kingdom''</u> *National Geographic*, July 1919. Both expressions 'corners of something/some place' and 'hermit kingdom' are conventional metaphors. 'Hermit kingdom' is a pejorative term applied to any country or society that wilfully walls itself off, metaphorically or physically, from the rest of the world[3]. These two metaphors seem to have been employed to emphasize the remoteness and separation of Korea from the rest of the world, which is the main subject of this article (the first sentence of this article makes it clear that the article is about Korea and its wildlife, including eagles). The reader realizes that the topic of the article and the geopolitical situation of this country determine the choice of these two metaphors in the headline. Another reason for which they were employed was to draw the reader's attention to the article. It is beyond doubt that these two metaphors can be categorized as context-induced metaphors (Kövecses 2010).

The title of another article reads: 'The eagle in action: An intimate study of the <u>eyrie</u> life of <u>America's national bird</u>' *National Geographic*, May 1929. The word 'eyrie'[4] used in this heading refers to the nest of raptors usually built high up in the mountains (raptors – birds of prey hunt for food primarily on the wing using their senses, esp. vision, for example eagles) (www.en.wikipedia.org). The word 'eyrie' then is a metonymy and stands for 'the eagle'; similarly, the expression 'America's national bird' is also a metonymy because a 'bald eagle' (one species of the eagle) is America's national bird. These two metonymies lend coherent meaning structure to this heading. They also provide the readers with additional cultural information (that this bird is America's national symbol) and with some contextual information about the eagle – the major entity – the subject matter of this discourse (namely, that it is a bird of prey and that it builds nests high up in the mountains).

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[3] This definition is taken from the internet (http://en.wikipedia.org/wiki/Hermit_kingdom).

[4] This word is meant to suggest the homonym adjective 'eerie' – meaning sacred or mysterious.

A similar metonymy may be identified in the heading 'Our bald eagle: Freedom's symbol survives' *National Geographic,* February 1978. The expression 'freedom's symbol' employed here stands for the bald eagle. Moreover, the possessive adjective 'our' in the expression 'our bald eagle' also implies that this species of the eagle is the national symbol of the USA. This metonymy makes the reader draw some cultural inferences about America and its values.

In another article 'Remote world of the harpy eagle' *National Geographic*, February 1995 the subheading reads, "Earth's most powerful raptor, the harpy eagle inhabits a shrinking domain in New World rain forests. After feeding on a capuchin monkey until the remains were light enough to carry, a female eagle in Guyana wings toward the nest where her ravenous chick waits". The metonymy 'raptor' used in the first sentence lends coherence to the text, but it also provides the contextual information that 'the eagle' is a bird of prey. The verb 'wing', in turn, may be considered the extension of the conventional metaphor or the idiomatic expression 'to be on the wing' – 'to fly'. Its main function seems to be to draw the readers' attention to the text.

A different conventional metaphor 'king of birds' can be found in the article 'The eagle, king of birds, and his kin' *National Geographic*, July 1933. This metaphor seems to be based on the primary metaphor[5] 'lord/king of heaven'. Consequently, its function is to attract the readers' attention and to raise some contextual and cultural connotations (in relation with the global context – God or the Bible). A similar but less frequent metaphor 'lordly bird' is employed in the heading 'In quest of the golden eagle: Over lonely mountain and prairie soars this rare and lordly bird, but three youths from the East catch up with him at last' *National Geographic*, May 1940. This metaphor also seems to be partly based on the primary metaphor 'lord/king of heaven' and may also imply a comparison between the Lord, God, and the bird, the eagle, ascribing some features of God (such as power, for example) to the eagle. Moreover, this metaphor has a metonymic function because it is used in the sense of 'the eagle'. Finally, this metaphor raises some contextual, cultural and biblical connotations that are also meant to arouse the reader's interest. The same interpretation applies to the heading 'Lord of the forest: Can the endangered Philippine eagle survive in the shrinking forests of its island home?' *National Geographic*, February 2008. Here, the metaphor gives us additional

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[5] Primary metaphors are embodied in our experience.

contextual information about the Philippine eagle, namely that it lives in the forests and is a powerful bird in this environment.

A different metaphorical extension, similar in meaning, can be found in the heading 'Scotland's golden eagles at home: Climbing perilous cliffs to lofty eyries, a naturalist photographs intimate family life of these <u>monarchs of the air</u>'. This metaphor seems to have metonymic grounding and function because it develops the inference that 'eagles' are the most highly valued or the most important birds; this metaphor is used in the metonymic sense ('monarchs of the air' stands for 'eagles'). A novel metaphor used in a similar metonymic sense is found in the subheading, "<u>Avian king</u> of the rain forest canopy, the Philippine eagle is defenceless against logging and land clearing ..." ('Lord of the Forest' *National Geographic*, February 2008). Moreover, there is additional wordplay in this example since we cannot be sure if the adjective 'avian' – relating to birds – (related to the Latin word 'avis' – a 'bird') is derived from the word 'aviary' or 'aviation' (or even 'aviator' – the old-fashioned word for a pilot). In the first case we arrive at the implicature that 'the eagle' is 'the best bird', in the second one the implicature is that 'it can fly in the best/fastest way'. It might also be the case that some people will draw both inferences.

Consider the following heading 'Bald eagles come back <u>from the brink</u>' *National Geographic*, July 2002 and the subheading, "An enduring <u>hallmark of wilderness greets the Alaska dawn</u>". In this heading the author of the article decided to employ part of the idiomatic expression 'the edge/brink of extinction' without the word 'extinction' itself. In this particular context the idiomatic expression has been compressed but there is no loss of meaning because the linguistic context makes it clear that 'bald eagles' are at issue. The conventional metaphor 'hallmark of wilderness greets the Alaska dawn' has metonymic function and grounding because 'hallmark of wilderness' (the most typical feature of wilderness in Alaska) refers to 'the bald eagle'. Consequently, this particular metaphorical expression not only lends coherence to this fragment of the text, but it also gives the readers some additional information about the major entity in the text – the 'bald eagle' as the most important species of wildlife in Alaska. The receiver has to face the fact that the semantic resonance in this metaphor is considerable because 'hallmark of wilderness' (literary inanimate object) greets 'the Alaska dawn' (also inanimate object). The technique of using conventional and novel metonymies and metaphors suits the social and cultural conventions of writing journalistic

headings whose main function nowadays is to attract the readers' attention. As a result, *National* Geographic headings and subheadings have not only referential, but also poetic and emotive functions (Jakobson 1960) since they are intended to encourage the reader to read the articles.

The last example presents a multimodal contextual metaphor (expressed by means of both language and a photo). This conventional metaphor comes from the article 'Adventures with South Africa's black eagles' *National Geographic*, October 1969. The subheading of this article starts, "Dive-bombed by a screaming eagle at the very edge of a cliff face, author Cowden ducks to avoid the bird's sharp talons (left)…" (there is a picture on the left in which there is some fragment of the eagle (it is difficult to recognize if it is the rear or the front part of it), which is above the woman who is on the ground rolling out of harm's way; the picture makes it evident that the eagle was about to attack the woman who had just had a narrow escape). The expression 'dive-bombed' seems to be based on the compound noun 'dive bomber' (a bomber aircraft that dives directly at its targets in order to provide greater accuracy for the bomb it drops). This visual contextual metaphor[6] makes it clear that the black eagle and the way it attacks (presented in the picture – the immediate physical setting) are compared to the 'dive bomber'. This picture and the expression *dive-bombed* evoke the image of the 'dive bomber' derived from the global context by the reader.

In conclusion, one can say that the context distinguishes literal from figurative use of language. It is necessary to establish a general understanding of the context and co-text of a headline when identifying metaphors and metonymies in it. The analysis of the headlines of the articles about eagles shows the presence of both novel metaphors (one novel metaphor has been identified), extensions of conventional metaphors (seven have been identified) and conventional metaphors (four have been found). Most of them have metonymic grounding and/or metonymic function[7] in the headings and subheadings of *National Geographic* articles. All of these metaphors seem to be context induced; when processing them the reader has to make references to the immediate linguistic context, social and cultural setting/context (the

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[6] This visual metaphor is contextual because we do not see the action of dive-bombing itself in the photo; in fact, we can only see some fragment of the bird in the air above the woman who is on the ground. The picture does not display the action in a direct way, it only implies it.

[7] It seems that it is sometimes difficult to distinguish a metaphor from a metonymy and blending theory does not claim that this distinction is important (Fauconnier and Turner 1998).

Bible, for example) as well as to background knowledge about the major entities discussed in the articles. Moreover, three metonymies have been identified; their main function is to lend semantic coherence to the headlines as well as to provide some contextual or cultural information about the subject matter of the articles. As far as visual metaphors are concerned, one multimodal contextual metaphor has been found. This metaphor, by referring to the immediate physical setting (the photo) and some background contextual information, provides the reader with some new relevant information and inferences. Finally, one can also identify one compressed idiomatic expression which is determined by the economy of language requirement for headlines.

4.2 'Bears' in National Geographic headings

As has already been mentioned there are 30 articles whose subject matter is the life of bears. The first article in which bears have been described was published in *National Geographic*, April 1998; the heading of this article reads 'Notes on the wild fowl and game animals of Alaska'. The headings of the articles published later are as follows: 'Hunting the grizzly in British Columbia' (*National Geographic*, September 1907), 'A bear hunt in Montana' (*National Geographic*, February 1908), 'Hunting the great brown bear of Alaska' (*National Geographic*, April 1909), 'Mapping the home of the great brown bear' (*National Geographic*, January 1929), 'The Koala, or Australian teddy bear' (*National Geographic*, September 1931). It is evident that no metaphors or metonymies can be found in them; the above headings are very simple and straightforward and they make it clear that 'bears' are mainly perceived as objects of hunting.

The first idiomatic expression can be found in the article '<u>Once in a lifetime</u>', *National Geographic*, August 1941. The subheading – the immediate linguistic local context of this article, "Black bears rarely have quadruplets, but Goofy did – and the camera caught her nursing her remarkable family", makes it clear what the title refers to (it refers to 'black bears' who rarely have quadruplets and to Goofy who just happened to have them). The use of metonymies in the headlines of articles about 'bears' is not uncommon, for example, in the article 'When giant bears go fishing' *National Geographic*, August 1954 the subheading reads "<u>Largest land-dwelling carnivores</u> gather in a secluded valley to feast on a favourite Delicacy: Live Alaska salmon". The author of this article decided to employ the metonymic expression

'largest land-dwelling carnivores' (to refer to 'bears') not only to avoid repetition and to lend coherent structure to this subheading, but also to provide the readers with more information about the most important entity in the article (the reader is informed that bears are the largest land animals that feed on meat).

It has already been mentioned that it is sometimes difficult to distinguish between a metaphor and a metonymy because some metonymies seem to have metaphorical function and some metaphors are metonymy-based. Consider, for example, the heading 'Raccoon: Amiable rogue in a black mask' and its subheading, "Tough, curious, and unwanted by man or dog, this bear-faced rascal shows a sense of humour and takes civilization in stride" (*National Geographic,* December 1956). The novel metaphor 'amiable rogue' (where 'rogue' means somebody who behaves in a way that you do not approve of but you still like him) functions as a metonymy (because it stand for a raccoon) and an oxymoron (this figure of speech combines contradictory terms). In addition, the photo on the first page, which shows the smiling face of a raccoon, enhances the comprehension of this metaphor. In the subheading there is another metonymy based on a simile 'bear-faced rascal' that implies that a 'raccoon' is an ill-behaved animal with a bear-like face. The idiomatic expression 'take civilization in one's stride', in turn, makes it clear that people like this animal and that it lives without much effort close to cities. The above metaphors and metonymies provide more contextual information about this animal and its appearance.

The subheading of the article 'Trailing Yellowstone's grizzlies by radio' (*National Geographic*, August 1966) reads, "Deposed monarch, the grizzly ruled the West until the repeating rifle overcame his size and strength…." The metaphorical extension 'deposed monarch' makes it clear that the grizzly was once a very powerful animal in the West. Moreover, this metaphor has metonymic function because it refers to the grizzly. The second metaphor 'repeating rifle' also has metonymic function because it stands for hunting for grizzlies in the past (in this context 'rifle' – a comparatively novel metonymy – stands for 'hunting'). In this example the reader has to make contextual references to the immediate linguistic context (especially in the case of metonymies), to the physical setting (geographical location) and to some events in the past – hunting for bears.

Let us consider the heading 'Polar bear: Lonely Nomad of the North' (*National Geographic*, April 1971). This conventional metaphor also has metonymic function because

'lonely nomad' refers to and stands for a polar bear. To understand this metaphor one has to make reference to the extra linguistic background knowledge and global context – nomadic people (communities of people who move from one place to another, rather than settling permanently in one location[8]). The adjective 'lonely' seems to emphasize the fact that nomads lead a different life to that of ordinary people and, thus, they are 'lonely' in their lifestyle.

The title of another article is the following 'Might makes right: Among Alaska's brown bears" (*National Geographic*, September 1975). The conventional/idiomatic expression means that those who are the strongest will rule others and have the power to determine what is right and wrong. Consequently, this expression implies that Alaska's brown bears are the most powerful animals of all. It is clear that it provides the readers with some more contextual information, but it seems that the main function of this idiom is to attract the readers' attention to the text itself.

Another conventional metaphor can be found in the article 'Studying grizzly habitat by satellite' *National Geographic*, July 1976. The subheading of this article starts from the words, "Where grizzlies roam: In Montana's Scapegoat Wilderness, the author, left, Steve Ford, son of the President, and Jay Sumner examine a satellite-computer map of their study area". To understand this conventional metaphorical expression one has to make reference to geographical names and locations, because by convention 'Scapegoat Wilderness' refers to 239,936 acres (971km2) spread across three different National Forests in the US state of Montana[9]. Thus, to comprehend this conventional metaphor one has to be familiar with some historical, cultural and geographical facts from the history of the US.

Consider the subheading of the article ''Grizz' of man and the great bear' *National Geographic*, February 1986:

> A bond deep and tender unites cubs and a sow, who will fiercely defend her offspring for two years or more. Though the bears are prolific here in Alaska, concern mounts in the lower 48 for the future of the wilderness monarchs. ... Not many get away, but this sockeye salmon escaped the jaws of a shaggy angler at Brooks Falls in Alaska's Katmai National Park. Long Painted as

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[8] See http://en.wikipedia.org/wiki/Nomad.

[9] It was created by an act of Congress in 1972 and is located in Lewis and Clark, Helena and Lolo National Forests. It is a part of the 1.5 million acre Bob Marshall Wilderness Complex as it shares a boundary with the Bob Marshall Wilderness, which in turn is connected to the Great Bear Wilderness further north.

ferocious predators, these bears are in fact <u>opportunistic omnivores</u>, whose diet is largely vegetarian. A voracious appetite can help build a nine-foot-tall, <u>1,800-pound behemoth</u>. While most weigh considerably less than that, all are powerful, determined, intelligent creatures that always seem wonderfully <u>larger than life</u>.

In the passage presented above one can identify two conventional metaphors 'shaggy angler', '1,800-pound behemoth' and one extension of a conventional metaphor 'wilderness monarchs' (based on the mapping 'Lord of heaven') used as a simile to refer to the grizzly bear and one idiomatic expression 'larger than life'. These metaphors have metonymic reference and require the reader to make some cultural or contextual references to background knowledge. 'Wilderness monarch' implies that this species is a very important and powerful part/element of wildlife in the lower 48 states of the USA. The '1,800-pound behemoth' metaphor, in turn, requires the reader to make some extra linguistic reference to the Bible (the behemoth is a mythological beast mentioned in the Book of Job; metaphorically the name has come to be used for an extremely large or powerful entity)[10]. In the next metaphor the 'grizzly bear' is compared to one species of fish, the 'shaggy angler' (which is incredibly unusual in appearance; its body is covered with tiny hair-like frills that help camouflage it in the wild; these fish are ambush predators, meaning they will wait in one spot for their next meal to swim by before attacking)[11]. In the subheading above one can also find one conventional metonymy 'opportunistic omnivores' and the idiomatic expression 'larger than life'. This metonymy specifies that grizzly bears can eat everything, both meat and plants. The idiomatic expression 'larger than life,' in turn, seems to suit the immediate linguistic context (the other metaphors that appear earlier in this passage) because it also stresses the exceptionality of these bears. All in all, the passage quoted above makes it clear that in the process of pragmatic completion and elaboration (Fauconnier and Turner 2002) the reader has to make reference to the cultural, global context, to the most important entity in this passage (the grizzly bear) and to the immediate linguistic context.

In the title of another article about bears one can find a novel metaphor with a metonymic function. This heading reads 'Polar bears: <u>Stalkers</u> of the high Arctic' *National Geographic*, January 1998. In this heading bears are compared to 'stalkers' ('stalk' in this

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[10] See http://en.wikipedia.org/wiki/Behemoth.

[11] See http://www.fancyfishbowl.com/4241/antennarius-hispidis-shaggy-angler-medium/.

context means to follow a person or a wild animal quietly in order to kill them or catch them). Consequently, this metaphor gives the readers some additional information about polar bears, namely that they are predators.

The heading of the article published in *National Geographic*, March 2002 is as follows 'Mother bear man: Ben Kilham nurtures cubs back to nature'. The metaphorical expression 'mother bear man' makes it clear that this article is about a man who is helping/nurturing cubs and then placing them again in their natural habitat. A photo in which this man is kissing the cub on its nose complements this novel metaphor. Additionally, there is a play on words since the author employed the words 'nurture' and 'nature' to satisfy social/cultural conventions of this discourse type and to draw the readers' attention to the article.

A metonymy is employed in the heading 'White on white' *National Geographic*, February 2004. The first adjective 'white' implies a white object – the polar bear and the second one refers to snow. This expression is complemented by the photograph in which there is a white bear walking on white snow (this picture is white or in different shades of white). One can say that the heading and the photo constitute a kind of a multimodal metonymy because the heading can only be comprehended in relation to the picture.

A similar metonymy can be found in the article 'Winter in a Canadian National Park: Refuge in white' *National Geographic,* December 2005. The metonymy 'refuge in white' can only be comprehended in relation to the picture which shows a mother bear sitting on the white snow and two cubs under her body – she is cuddling/hugging them. In this metonymy the adjective 'white' could stand for white snow, but the picture makes it clear that it stands for the (white) mother polar bear. It is hardly possible that in this multimodal metonymy both the picture and the linguistic expression are processed at the same time. It is more likely that we process the photo/photos first and then modify this information according to the heading or subheading. In this case the processes of completion and elaboration of the linguistic metaphor and the picture might not be simultaneous.

As has already been mentioned extensions of conventional metaphors/idioms are not infrequent; for example, the heading of the article published in *National Geographic*, February 2006 is 'Giants under siege'. In this context this idiomatic expression means 'in danger of extinction' and the immediate linguistic context makes it clear that the giants – the brown bears – are in danger. The choice of this idiomatic expression is determined by the fact that

the author wants to draw the readers' attention to the text. In the subheading of this article one can find a novel metaphor, "<u>The bear's head swings</u> from side to side <u>like a metronome</u> as he lumbers across the slope…" This simile is a novel metaphor in which the way the bear's head swings is compared to a metronome (a device that is used to help musicians play at a steady tempo). The metaphors discussed above have been employed not only to draw the reader's attention, but also to provide the readers' with some information about the topic of the articles – the bears.

Finally, one can also find compressed conventional metaphors. For example, in the article 'Life <u>at the edge</u>' *National Geographic*, June 2007, the idiomatic expression 'at the edge of extinction' has been compressed to arouse the readers' interest. In sum, in the headings of the articles about bears one can find five idiomatic expressions, three extensions of idioms, four novel metaphors (most of them with metonymic functions), two metonymies, four conventional metaphors, two extensions of conventional metaphors, two multimodal metaphors, two multimodal metonymies and one compressed conventional metaphor.

Conclusion

It seems that both the context and the sparse information provided by language together evoke a conceptual metaphorical representation. It also has to be mentioned that in the case of multimodal metaphors (consisting of combinations of different forms or ways of conveying information – texts and photographs or pictures) it is hardly possible that both the words and the images are always processed by the readers at the same time. It seems more likely that in most cases the images are processed first. Normally, pictures have a more powerful impact on the reader due to their holistic processing. The interpretations of the visual elements are, however, cued and restricted by the verbal elements of a multimodal text[12] (in this case linguistic metaphors).

In addition, most of the *National Geographic* metaphors (both conventional and novel ones) seem to have metonymic grounding and/or metonymic function in the headings and subheadings of this journal. The analysis has shown that one can find conventional metaphors/ metonymies, their extensions and novel metaphors/metonymies in *National Geographic*

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[12] This phenomenon is referred to as anchoring (Barthes 1977) and it can also be achieved beyond the immediate co-text, by means of intertextuality.

headlines. It is noteworthy, however, that the journalists of *National Geographic* have displayed a tendency to use more extensions of conventional metaphors and novel metaphors and metonymies since the middle of the 20th century. This is connected with the changing perception of wildlife and wild animals – it seems that in the middle of the 20th century people started thinking about protecting wild animals and stopped perceiving them as objects of hunting. Consequently, journalists concentrated more on describing wild animals, their life or habitat, making the readers more ecologically conscious.

As a result, they started employing more novel and more creative expressions or metaphors. This tendency is also connected with advances in technology (colourful pictures), different social and cultural expectations of the receivers as well as with the increasing competition in the press market (all these factors constitute the global context). One can safely say that both global and local contexts (the use of photos, the immediate linguistic context) generate all kinds of metaphors and metonymies used in *National Geographic* headlines[13]. In sum, all of the metaphors analysed seem to be to different degrees and in different ways context-induced; when processing them the reader has to make references to the global context (the Bible, for example) or to the immediate linguistic context, the social and cultural setting as well as to the background knowledge about the major entities discussed in the articles.

The stylistic analysis also demonstrates that metaphors and metonymies have some notable functions to fulfil in the headlines and that they bring about quite a few cognitive, pragmatic and stylistic effects. Metaphors and metonymies (1) foreground a pragmatically relevant aspect of the article to grab the reader's attention and arouse the reader's interest, (2) guide pragmatic inferencing in text interpretation (by making reference to the background knowledge, the immediate physical setting and the social or cultural contexts), (3) describe the immediate physical setting or the immediate entity of the text, (4) create referential variety and enhance cohesion and coherence.

Finally, the technique of using different kinds of metonymies and metaphors suits the social and cultural conventions of writing journalistic headings whose main function nowadays is to attract the readers' attention. As a result, *National Geographic* headings and subheadings

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[13] According to Osuchowska (2011), it is difficult to determine exactly what contextual factors induce linguistic metaphors.

have not only referential, but also poetic and emotive functions (Jakobson 1960) since they are to encourage the receiver to read the *National Geographic* articles.

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