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LOST IN TRANSLATION[1]: POPULAR SCIENCE GENRE AS A MEDIATION BETWEEN AMERICAN AND POLISH CULTURE – THE CASE STUDY OF *NATIONAL GEOGRAPHIC*[2]

Summary. Popular science genre is usually defined as a genre whose aim is to fulfill a significant cultural and social function of popularizing science, scientific knowledge and research. This paper discusses the popular science translation or rather cultural adaptation, regarded as a mediation between these two cultures. The qualitative and quantitative research findings concerning headlines and sub-headlines discussed here, as well as their relation in the two cultures, may be of relevance to the work of all those interested in the mutual relation between language and popularization of science, in particular to linguists, translators, sociologists, philosophers of culture as well as journalists.

Keywords: popularization, headlines, sub-headlines, degree of equivalence in translation, cultural adaptation, popular science translation.

ZAGUBIONE W PRZEKŁADZIE: GATUNEK POPULARNO-NAUKOWY JAKO MEDIACJA POMIĘDZY AMERYKAŃSKĄ A POLSKĄ KULTURĄ – STUDIUM *NATIONAL GEOGRAPHIC*

Streszczenie. Gatunek popularno-naukowy jest zwykle definiowany jako gatunek, którego celem jest ważna funkcja kulturowa i socjalna popularyzacji nauki, wiedzy naukowej i badań. *National Geographic* jest przykładem amerykańskiego magazynu popularno-naukowego, który jest wydawany i tłumaczony na wiele języków, a wśród nich jest jego polska edycja. Badania nad artykułami popularno-naukowymi i ich stylem w oryginalnej wersji angielskiej i w tłumaczeniu na polski pozwalają na wgląd w obie kultury. Artykuł omawia tłumaczenie popularno-naukowe lub raczej adaptację kulturową, traktowaną jako mediację pomiędzy dwoma kulturami. Na elementy językowe, szczególnie ważne

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[1] Lost in Translation is a 2003 American comedy-drama film written and directed by Sofia Coppola. The Polish translation of the title of the movie is Między słowami (literally 'in between the words').

[2] I would like to express my gratitude to Prof. Piotr Bołtuć for his valuable and insightful comments on the content of this article.

z perspektywy dziennikarskiej, mającej na celu uczynienie szeroko dostępny dyskurs popularno-naukowy, składają się: nagłówki/tytuły, podtytuły, nagłówki w treści artykułów oraz nagłówki/tytuły rozpoczynające sekcje artykułów. Jakościowe i ilościowe wyniki badań, dotyczące tytułów i podtytułów prasowych omawianych w artykule, jak również ich relacji w obu kulturach, mogą mieć znaczenie dla badaczy zainteresowanych wzajemnymi relacjami pomiędzy językiem a popularyzacją nauki, w szczególności dla językoznawców, tłumaczy, socjologów, filozofów kultury i dziennikarzy.

Słowa kluczowe: popularyzacja, nagłówki/tytuły, podtytuły, stopień ekwiwalencji w tłumaczeniu, adaptacja kulturowa, tłumaczenie popularno-naukowe.

1. Introductory word: The concept of popularisation

The linguistic-discursive structures of the ways in which science is reported in the written media of mass communication have been studied by Beacco (1999), Calsamiglia (2003), Ciapuscio (2001), Jacobi (1999) and Moirand (1997). In the popularization (*vulgarisation* in French) of discourse in general and popularization in the press in particular, special attention is paid to the detailed structures of text and talk that play a role in the presentation of knowledge. According to Calsamiglia and van Dijk (2004), some of the main tenets of the theory of popularization are the following:

1. Popularisation can be viewed as a social process consisting of a large class of *discursive-semiotic practices* that involves many types of mass media, books, the Internet, exhibitions and other genres of communicative events, aiming to communicate lay versions of scientific knowledge, as well as opinions and ideologies of scholars, among the public at large.

2. Popularisation is not only characterized by specific textual structures, but first of all by the properties of the *communicative context*: participants and their roles such as scientific sources, specialized journalists, lay public; their respective purposes, beliefs and knowledge, as well as the relevance of this knowledge in people's lives.

3. These context properties of popularization discourse are relevant for the linguistic analysis of textual structures of such discourse.

4. Popularization involves *reformulation*, but also *recontextualization* of scientific knowledge and discourse that is originally produced in specialized contexts to which people have limited access. This entails that popularization discourse must always adapt to the appropriateness conditions and other constraints of the media and communicative events.

5. The mass media are not passive mediators of scientific knowledge, but actively contribute in the production of new, common knowledge and opinions about science and scientists. Thus, media managers and journalists decide what and especially how to publish about science, scientists and scientific knowledge (Bell and Garrett 1998).

6. The role of new knowledge production by the mass media should be further contextualized in relation to the entertainment functions of the media.

Calsamiglia and van Dijk (2004) also claim that against the background of these general assumptions on popularization, a multidisciplinary, theoretical framework that combines insights into context, text and knowledge is required.

2. Popular-science style

The popular science style may be perceived in various ways. The popular science style is a subcategory of scientific style (Gajda 1982, Nocoń 1996). It may be seen as a combination of certain elements of scientific style, with the elements of colloquial language (Bartmiński 1981). There are hybrid texts which contain elements of various styles, such as: scientific, journalistic, colloquial or artistic (Starzec 1999).

Due to the variety of topics covered, a wide array of genres to choose from (article, essay, story, etc.), as well as a wide range of potential addressees, it is possible to enumerate only the most general features of the popular science style. Starzec (1999) mentions *subjectivity* and *expressiveness* as two important aspects of this style, saying that they are in direct opposition to the objectivity of scientific style. Subjectivity in popular science texts is manifested by their author, for instance, by adopting a strategy of reducing the distance between the participants in communication, and by evaluating the facts presented. As Gajda (1982: 131) notes, this kind of subjectivity is also expressed lexically by using colloquial or emotionally-tinged expressions, evaluating words and phrases. Expressiveness in popular science texts is supported by syntactic structures which resemble spoken language. They also increase the pace of presenting the information, thus making the text more dynamic (Starzec 1999: 33).

Other features exhibited by popular science texts are their *concrete character* (as opposed to the abstract nature of scientific texts) and the *imagery* used. It is noticeable in their lexis which is rich in metaphors, descriptions, as well as various comparisons aimed to activate the reader's imagination, background knowledge and life experience. All these expressions are to translate abstract terms and notions into a concrete language. Therefore, popular science texts frequently contain comparisons, metaphors and synonyms (Starzec 1999).

The texts in both versions of *National Geographic* (the American and the Polish one) represent popular scientific style; they both deal with similar subjects and discuss them in a similar way. In general, the subject matter of *National Geographic* articles concerns wildlife, different species of animals and plants, different tribes, scientific discoveries and geographical regions. While the English articles are written in an informal or semi-formal rather than formal style/register, which is characterized by the use of informal expressions or

idioms, the style of the Polish articles usually seems to be more formal (Pikor-Niedziałek 2009). The main function of this journal is informative but the articles, and sometimes the headlines, also have expressive and conative functions (Jakobson 1960) because they often carry some emotional load or their authors try to influence the readers.

3. Cultural background of popular science and *National Geographic* articles

National Geographic is an American world-famous monthly magazine that has been published since 1888 and is published in 38 languages. As one of the oldest continuously published monthly magazines in America, it is known and read in many countries. It is notable for its long history of presenting scientific and technological discoveries or inventions, different species of animals and geographical regions to an educated but not necessarily scientific public, through its attention to the clarity of its text, the quality of its pictures and graphics which are rich in content. The target readership of this magazine comprises well-educated adults who are interested in geography, biology, science and technology and who wish to learn about the latest advances. The information is presented in a way understandable for laymen and the readers do not have to be experts in a given field to understand the articles in question. The authors also do their best to ensure that both the content and the form of the articles are attractive for the readers.

In addition, popular science articles are created or written on the basis of an *inverted pyramid style*, which ensures that the most important and relevant information is delivered to the reader at the very beginning, by the headline (Rich 2010: 47). This writing method is valued since the reader can leave the text at any point and still understand it.

Moreover, it is noteworthy that 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 in a nutshell 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. It is noteworthy that usually the omissions can easily be recovered or guessed from the context.

The research conducted on *National Geographic* headlines is relevant for linguists and headline writers since it is helpful in designing popular science headlines which fit best in the two cultures. *National Geographic* headlines and their translations are analysed according to the degree of equivalence introduced by Bayar (2007: 213-223) and modified by the author.

The classification applied seems to be appropriate both for analysing and writing or designing magazine or newspaper headlines. *National Geographic* sub-headlines in turn are analysed in terms of their informativeness, expressiveness and semantic content in the two language versions.

Finally, the choice of *National Geographic* headlines and sub-headlines is motivated by the fact that this magazine, published in many language versions, is well known all around the world. The material analysed in the paper consists of the headlines and sub-headlines of ninety-one articles published in the American version of *National Geographic* (January 2013 – December 2014) and their translation or Polish version published in *National Geographic Polska* (January 2013 – December 2014). The headlines and sub-headlines of all the articles translated into Polish in this time period have been taken into consideration and analysed.

4. Head types: Headings, headlines and crossheads

Headlines are a very important aspect of modern newspapers and journals. For this reason they have been studied not only by journalists but also by linguists. Schneider (2000) uses the term *head* as the general term for *headings*, *headlines* and *crossheads*. According to her study (2000: 48),

Headings do not give any specific information about the content of the news stories following. They simply serve the purpose of better grouping the news and can be categorised into report headings and section headings. Headlines, in contrast, provide more or less detailed information about the content of an article, mostly by providing a short summary. Crossheads differ from both headings and headlines in that they do not appear at the top but in the middle of a section or an article. They usually function as heads of paragraphs.

Report headings provide very general information concerning a report or an article. Schneider (2000: 48) notes that they most often give an article's place and date of origin. In the case of *National Geographic* they consist of the name of the author of the article and the name of the photographer whose pictures appear in the article. *Section headings* refer *to the general content of the whole section of a newspaper. The overall purpose of these headings, as mentioned above, is to group the news and to signal where an article or a section begins* (ibid.). For example, the section heading taken from *The Economist – The World in 2011* (the article *Cooling the Earth*) reads: *Don't ignore the easier things*. In the case of *National Geographic* the paragraphs of some articles start with capital letters and these capitalised phrases may be treated as *section headings*, for example *THE STORY OF THE CENTRAL VALLEY of California is the story of much of the American West, and of other inhabited deserts around the world* (*National Geographic*, October 2014, the article *When the Snows Fail*). The section headings discussed introduce the content of the paragraphs that follow.

A *headline* in turn summarises the content of an article or a news story in a few words. White et al. (1993: 12) note that *the headline should tell you in a glance what the story is, or else intrigue you enough so you want to find out what it is by reading on.* Examples of *National Geographic* headlines are provided and discussed in detail in the sections that follow.

Crossheads emphasize the main subject matter of a paragraph of an article. Schneider (2000: 48) notes that *their function is to facilitate reading by providing short summaries of paragraphs within the body copy*. She further claims that *A special type of a crosshead is the inserted quote, a quotation printed in a larger type and placed in the body copy of an article. In contrast to most crossheads, it does not occur at the beginning of a paragraph but is placed in the middle of the text*. *Inserted quotes* usually emphasize the most important point of the paragraph in which they are inserted. For example, both *crossheads* and *inserted quotes* can be found in *National Geographic*. Consider the examples: *At 10:58 p.m. on July 19 a flatbed truck with 36 palm trees escorted by four policemen inched its way down the Champs-Elysees* and a quote '*When you have clouds, for a few minutes it is white as salt' says Jean Esselinck*' (taken from the article *Love and loss on the* Seine, *National Geographic*, May 2014).

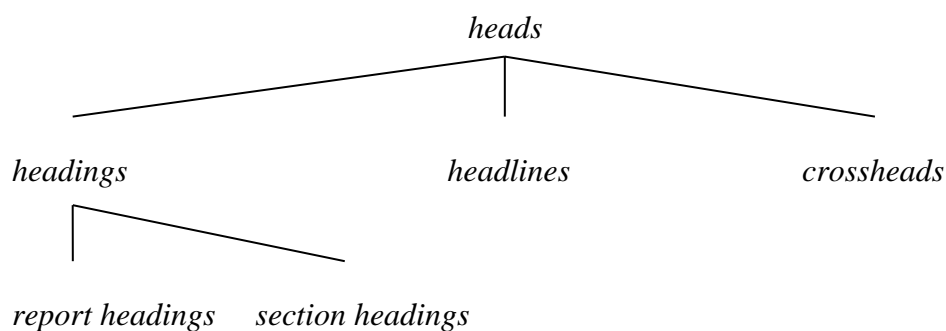*Figure* 1. below shows the classification of *heads*.

Fig. 1. The classification of heads (Schneider 2000: 48)
Rys. 1. Klasyfikacja *główek* (Schneider 2000: 48)

The sections that follow concentrate on discussing *National Geographic* headlines and sub-headlines. Both quantitative and qualitative analysis of headlines and sub-headlines is provided in the article.

5. Equivalence in translation

One of the most important aspects of the translation process is finding appropriate equivalents in the TL; thus, translation equivalence is an important area in translation studies.[3] Equivalence is mostly based on word, sentence or text level; therefore, it is related to units of equivalence which could be morphemes, words, phrases, clauses, idioms, proverbs, etc., i.e., equivalence level and units of equivalence are highly connected.

For example, Nida (1964: 126) and (Venuti 2000: 129) claim that it is not possible to have absolutely exact translations as there are no identical languages. Nida and Taber (2003) define two types of equivalence: *formal* and *dynamic* (or functional) equivalence. Formal equivalence is based on the form and content of the message; there might be 'poetry to poetry, sentence to sentence and concept to concept equivalence' (Nida 1964: 159; Venuti 2000: 129). This type of equivalence is possible when the item of the target text (TT) is almost the same as the one in the SL. Moreover, *formal equivalence* is associated with grammatical units, consistency in word usage and the meaning in connection with the source context. It is related to cultural values, whereas *dynamic equivalence* is more associated with the equivalent relation between the receiver and the target message and the relation between the receiver and the source message. Thus, dynamic equivalence is based on the principle of the effect being equivalent and the TT being as natural as the ST. With this type of equivalence translators may face difficulties when cultures are rather similar but languages differ greatly and vice versa.

At various levels, and loosely following Koller (1989: 100-104), Kenny (2001: 77) establishes that there are the following distinct types of equivalence: *referential or denotative equivalence*, based on the SL and TL words supposedly referring to the same thing in the real world; *connotative equivalence*, where the SL and TL words trigger the same or similar associations in the minds of native speakers of the two languages; *text-normative equivalence*, the SL and TL words are used in the same or similar contexts in their respective languages; *pragmatic* (Koller 1989:102) or *dynamic equivalence* (Nida 1964), the SL and TL words have the same effect on their respective readers; and *formal equivalence*, the SL and TL have similar orthographic or phonological features.

In addition, translation equivalence is associated not only with its typology, but also with various degrees of equivalence, i.e., equivalents are analysed on the basis of how the units of equivalence in translations correspond to the units in source texts. Bayar (2007: 213-223), for instance, distinguishes seven types of equivalence degrees:

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[3] Więcławska E., (2014) discusses translation procedures and the notion of precision and equivalence in the translation of legal texts; Gibova (2012) discusses them in the translation of literary texts.

- *optimum translation* – the text looks semantically and grammatically well-formed, with sentences that cohere to each other to provide the message of the ST and preserve its content; also the TT is readable and easily understood,
- *near-optimum translation* – the message of the ST is rendered to the TT cohesively and coherently; however, readability of the optimal degree from a textual point of view is not achieved,
- *partial translation* – the message is translated partially,
- *weaker* and *stronger translation* – the message of the ST is reproduced and conveyed in weaker or stronger words, so that the effect of the text is either weaker or stronger,
- *poor translation* – the main problem is readability; the main idea is also hardly transferred,
- *mistranslation* – TT is unreadable,
- *zero equivalence/non-translation* – there is no one-to-one equivalence between the ST and the TT.

Optimum or absolute equivalence, however, is claimed to be difficult to reach as the structures of languages differ. Equivalence in translation is, therefore, one of the most important directions in translation studies.

6. Degree of equivalence

When it comes to headline translation, and sometimes even sub-headline translation, one of the difficulties is the lack of context, i.e., while headlines present only a very condensed idea of articles, there is no additional information and various associations might appear in the minds of the readers. Ninety-one *National* Geographic headlines and their translations are analysed according to the degree of equivalence introduced by Bayar (2007: 213-223) and modified by the author. It seems that in the translation of *National Geographic* headlines into Polish one can distinguish five degrees of equivalence in translation: *optimum translation*, *near-optimum* and *partial translation* (*week translation/equivalence* done by means of words which are *similar* or *dissimilar in meaning*)[4] and *zero equivalence*. In *optimum* or *near-optimum translation* headline pairs satisfy both extralinguistic and intralinguistic criteria (semantic, formal and stylistic) and their dynamic/pragmatic equivalence is maintained. In *partial equivalence* one or more criteria are satisfied, but headlines do not meet all the requirements for absolute equivalence. In the case of *zero equivalence* in turn headline pairs exhibit no or rather poor equivalence. Furthermore, *partial equivalence* appears to be too

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[4] The distinction between weak translation done by means of words with similar or dissimilar meaning has been introduced/proposed by the author of the paper.

broad, so it is divided by the author into two narrower subtypes: *week translation/equivalence* done by means of words which are *similar* or *dissimilar meaning*.

7. Degree of equivalence in the translation of *National Geographic* headlines

Optimum translation

Optimum translation is characterised by equivalence at all the levels, i.e.: the semantic level, the stylistic level and the pragmatic level. Semantic equivalence is maintained when there is both connotative and denotative equivalence between words and phrases in English and Polish headlines. Stylistic equivalence is maintained when the source language headline sounds natural in the TL and culture.

Since optimum translation appears as soon as equivalence is maintained at all the levels mentioned above and no variations or uncertainties are possible in this case, headlines of optimum translation may be characterised by one-to-one correspondence. Only five out of ninety-one headlines of *National Geographic* correspond to these requirements and may, therefore, be labelled as headlines with absolute correspondence, i.e., of optimum translation, consider: *Crazy Far – Obłędnie daleko, Restless Genes – Niespokojne geny, North Korea – Korea Północna, Dogs of War – Psy wojny, Carnivore's Dilemma – Dylemat mięsożercy.*

As there are only five headlines labelled as examples of optimum translation (with optimum equivalence), it might be suggested that it is difficult to achieve optimum translation or rather that *National Geographic* headline writers rarely aim to attain absolute/optimum equivalence.

Near-optimum translation

Near-optimum translation is exhibited in cases where: headlines do not correspond stylistically, the form is rendered in a different way, the semantic equivalence is conveyed (but very insignificant or nonessential inaccuracy might appear at the semantic level) and the same information is maintained. This type of translation is quite close to optimum translation as only some insignificant uncertainties are exhibited in the headlines translated to this degree, while the main idea and the information (especially at the semantic level which is very important in maintaining the meaning and the same effect of the whole headline) is conveyed. Only six out of ninety-one headlines in the corpus analysed correspond to these requirements and may, therefore, be labelled as headlines with near-optimum correspondence, i.e., of near-optimum translation, consider: *Midnight Gardens – Nocne ogrody* ('Night

gardens'), *Big fish – Taaka ryba* ('Such a big fish'), *The Next Green Revolution – Druga zielona rewolucja* ('The second green revolution'), *The Nuclear Tourist – Turystyka nuklearna* ('Nuclear tourism'), *Monekys of Marocco – Małpy z Maroka* ('Monkeys from Marocco'), *When the Snows Fail – Kiedy śnieg zawodzi* ('When the snow fails').

As there are only six headlines labelled as examples of near-optimum translation (with near-optimum equivalence), it might be suggested that it is difficult to achieve this kind of equivalence. Thus, near-optimum equivalence is rare in the translation of *National Geographic* articles or the headline writers do not aim at near-optimum equivalence for cultural or stylistic reasons.

Partial translation
Weak translation/equivalence by means of words similar in meaning

Weak translation/equivalence done by means of words which are similar meaning refers to a weak degree of equivalence maintained in the headline translation. The translation is considered weak where: there is not enough equivalence, the form and the style is maintained, the information is conveyed and additional information is added or some information is omitted or altered. The following thirty-nine instances of weak translation done by means of words similar in linguistic form have been identified: *Living With Lions – Lwy i ludzie*[5] ('Lions and people'), *New, Old Libya – Libia* ('Libya'), *Drones Take Off – Czas Dronów* ('Time of Drones'), *Manatee Mania – Manaty* ('Manatees'), *Chasing Longevity – Długowieczność* ('Longevity'), *Fertilizer Curse – Przenawożenie* ('Over-fertilizing'), *Grand Canal – Chiński kanał* ('Chineese canal'), *Crowded Everest – Everest, Last of the Whalers – Wielorybnicy* ('Whalers'), *Close-Up on Mars – Mars, It Began in Chaos – Chaos w układzie* ('Chaos in the system'), *The Life of Lions – Król lew* ('King lion'), *Secrets of the Maya – Cenoty Majów* ('Cenotes of Maya'), *Antarctic Climb – Antarktyda, Failure Is an Option – Wiwat porażka* ('Viva failure'), *Changing Faces – Twarze Ameryki* ('Faces of America'), *Visual Village – Cyfrowa wioska* ('Digital village'), *The War for Nigeria – Nigeria, First Skiers – Narciarze z Ałtaju* ('Skiers from Altai'), *America's New Oil – Ropa z łupków* ('Oil from schist'), *The Last storm – Ostatnia pogoń* ('The last chase'), *Kayapo Courage – Kayapo, The Art of Collection – Kolekcje* ('Collections'), *Once Upon a Dragon – Smok z Komodo* ('A dragon from Komodo'), *Putin's Party – Soczi Putina* ('Putin's Sochi'), *Yukon Gold Fever – Jukon* ('Yukon'), *Secrets of the Brain – Mózg* ('Brain'), *Quicksilver Tuna – Tuńczyk* ('Tuna'), *Can Coal Be Clean ? – Węgiel* ('Coal'), *Digging for Dinosaurs – Raj Dinozaurów* ('Dinosaurs' paradise'), *Love on the Seine – Na falach Sekwany* ('On the waves of the Seine'), *Farming Better Fish – Morza do uprawy* ('Sees for farming'), *Life Beyond*

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[5] In this example alliteration, the repetition of the same sounds or of the same kinds of sounds at the beginning of words or in stressed syllables of an English language phrase, has been added. The headlines in the two languages start with the consonant 'l'.

Earth – Żywy kosmos ? ('Live universe'), *The New Face of Hunger – Głodna Ameryka* ('Hungry America')*, The Hidden World of the Great War – Podziemia wojny* ('Underground of war'), *The Evolution of Diet – Dieta jaskiniowa* ('Cave diet'), *Rethinking Nero – Neron*, *Medieval Mountain Hideaway – Wyprawa do Średniowiecza* ('Expedition in the Middle Ages') *King Cretaceous – Król spinozaur* ('King sipnosaurus').

Weak translation done by means of words similar in meaning is very frequent in headline translation of *National Geographic* articles; as many as thirty-nine out of ninety-one headlines in the corpus satisfy the requirements of weak translation of this kind. The headlines above exhibit only some semantic equivalence because some information they provide is usually either altered or omitted. Most of the headlines analysed are characterised by stylistic, formal, semantic or other deviations/changes.

Weak translation/equivalence by means of words dissimilar in meaning

Weak translation/equivalence done by means of words which are dissimilar in meaning refers to a weak degree of equivalence maintained in the headline translation. The translation is considered weak where: there is not enough equivalence, the form and the style is maintained, the information is conveyed and additional information is added or some information is omitted or altered. The following six instances of weak translation done by means of words dissimilar in linguistic form have been identified: *Star-Eater – Czarne dziury* ('Black holes'), *The Next Breadbasket – Afryka obfitości* ('Africa of abundance'), *Lowcountry Legacy – Odzyskana przyroda Karoliny* ('Regained wildlife of Carolina'), *Stonehenge – „Miasto'' z neolitu* ('A town from Neolit'), *Rising Seas – Wielki potop* ('Great flood'), *Ghost Cats – Puma.*

Weak translation done by means of dissimilar words in terms of meaning is infrequent in the headline translation of *National Geographic* articles; only six out of ninety-one headlines in the corpus satisfy the requirements of weak translation of this kind. The headlines above exhibit only some semantic equivalence because some information they provide is usually either altered or omitted.

Zero equivalence

Zero equivalence is characterised by absolutely different wording, only some or even no reference to the main idea of the original (however, the information is different as the semantics of the translated headline as a whole is not maintained), different style and different form. In other words, the translated headlines with zero equivalence do not exhibit any equivalence at any level. Consider the following examples that have been identified: *Rain Forest Sale – Yasuni, Ultimate Trek – W nieznane* ('Into the unknown')*, Small Small World – Mikroby* ('Microbes')*, A Healing Bite – Jad* ('Venom')*, Roof of the World – Dziki korytarz*

('Wild corridor'), *Class Reunion – Chiny* ('China'), *Tusk Hunters – Mamuty* ('Mammoths'), *Rush for Red Gold – Mahoń* ('Mahogany'), *Zimbabwe's Voice –Czarna despotia* ('Black despotism'), *All the Way Down – Kosmiczne dno* ('Cosmic bottom') , *Rebirth of a Park – Gorongosa, Big Bird – Kazuary* ('Cassowary'), *Pulse of the Congo – Kinszasa* ('Kinsasa'), *Price of Precious – Puszcze złota* ('Backwoods of gold'), *Grounded Art – Parki inaczej* ('Parks in a different way') , *Building the Ark – Fotograficzne zoo* ('Photographic zoo'), *Out of Eden – Obejść świat* ('Go around the world'), *Virtually Immortal – Zabytek cyfrowy* ('Digital antique'), *Tumbling Intruder – Zielona inwazja* ('Green invasion'), *Far From Home – Chleb na pustyni* ('Bread on the desert'), *Brunelleschi's Dome – Katedra* ('Cathedral'), *Karma of the Crowd – Święto Dzbana* ('Jug feast'), *Will the Walls Fall ? – Damaszek* ('Damascus'), *The Ship-Breakers – Bangladesz* ('Bangladesh'), *Untouched – Grogowiec Wari* ('Waria's tomb'), *Puffin Therapy – Maskonury* ('Puffins'), *Train for the Forgotten – Lekarze na torach* ('Doctors on the tracks'), *The Wells of Memory – Dookoła świata* ('Around the world'), *Divided Kingdom – Jak Taj z Tajem* ('Like a Thai with a Thai'), *Mindsuckers – Zwierzęce zombi* ('Animal zombie'), *Sorrow on the Mountain – Szerpowie* ('Sherpas'), *The Communal Table – Radość jedzenia* ('Joy of eating'), *Blesses. Cursed. Claimed – Dookoła świata* ('Around the world'), *Just Press Print – Świat z 3D* ('The world with 3D'), *Cowboys on the Edge – Patagonia.*

Headlines with zero equivalence, therefore, make up almost one third of the translated headlines analysed (thirty-five out of ninety-one headlines have been translated in this way). Therefore, headlines of this type are almost as common as the headlines of weak translation in this particular magazine. Finally, the semantic and pragmatic equivalence (or the degree of equivalence) is an important part of translating headlines or headline writing. *Figure* 2. below exemplifies the degree of equivalence in the translation of *National Geographic* headlines.

National Geographic Polska headlines (January 2013-December 2014) 91 (100%)				
optimum equivalence 5 (5,5%)	near-optimum equivalence 6 (6,5%)	partial translation/equivalence		zero equivalence 35 (38,5%)
		week translation with words similar in meaning 39 (43%)	week translation with words dissimilar in meaning 6 (6,5%)	

Fig. 2. The table illustrates the degree of equivalence in the translation of headlines
Rys. 2. Tabela ilustruje stopień równoważności w tłumaczeniu nagłówków

The table shows that partial translation/equivalence (43% and 5,5%) and zero equivalence (38,5) are predominant in the translation (or designing) headlines of *National Geographic* in Polish. These procedures seem to be chosen to satisfy the readers' expectations and different

stylistic and cultural requirements as far as popularization of science or popular science style is concerned in the two languages/cultures.

The section that follows briefly discusses the sub-headlines in the Polish and American editions of *National Geographic* and the issue of reformulation of popular science texts which is closely connected with the subject in question.

8. Cultural adaptation in the translation of *National Geographic* sub-headlines

In the case of *National Geographic* sub-headlines one cannot talk about the degree of equivalence because the sub-headlines in the two editions are very different and it is difficult to compare them. Every article in both editions of the journal is followed by a sub-headline, but the sub-headlines in the Polish edition are not translations but reformulations of the text in question. It seems that headline writers decided to adapt or reformulate English sub-headlines to the expectations of Polish readers who might expect more detailed and precise information in the sub-headline. As a result, one can say that Polish headline writers design the sub-headlines in such a way that have very little in common with the English sub-headlines in most cases they. In the majority of cases English sub-headlines are short, concise, expressive and are to attract the readers' attention or to arouse the potential readers' interest in the article's content.

Consider, for example, the sub-headline of the article *Crazy Far* which reads: *Will we ever reach the stars ?* This sub-headline like all other English sub-headlines in this magazine is short and expressive. The Polish sub-headline in turn (taken from the article *Obłędnie daleko*), though related to the article's content, is much longer and more informative. It reads: *Postawiwszy nogę na księżycu, ludzkość jakby pohamowała swój pęd do podboju kosmosu. Terminy załogowej wyprawy na Marsa wciąż są przesuwane. A co z podróżami dalszymi, do innych układów planetarnych ? Czy, jak i kiedy moglibyśmy polecieć do gwiazd ?* In the English translation (done by the author) the passage reads: *Setting foot on the Moon humankind seemed to curb its rush to conquer the Universe. The dates of the crew expedition to Mars are constantly being postponed. And what about more distant travels to other planetary systems ? Could we travel to other stars ? How and when ?*

In some rare cases the English sub-headlines, though always short – consisting of one line or one or two sentences, are more informative than expressive. For example, consider the sub-headline of the article *Rush for Red Gold* which reads: *Illegal loggers plunder Peru's forests for mahogany*. The Polish sub-headline, containing more metaphors, seems to be more expressive: **Strzelające pod niebo** *pnie mahoniowców były ozdobą amazońskich lasów. No właśnie były. Bo czy człowiek może* **przejść obojętnie** *obok złota, nawet jeśli jest to* **„czerwone**

złoto''? (This sub-headline is taken from the article titled *Mahoń*, 'Mahogany'). In the English translation the passage reads: *The trunks of mahogany trees* **shooting to the sky** *were always a decoration of Amazon rainforests. Exactly, they were. Can a man* **pass by** *gold indifferently, even if this is* **''red gold''***?*

Moreover, in some cases Polish headlines, always long and consisting of at least two or three sentences and being usually more informative, convey a different kind of information. For example, the sub-headline of the article *Living with lions* reads: *Africa's lions may number no more than 35,000. Can they be saved ?* The Polish sub-headline of this article entitled *Lwy i ludzie* reads: *Życie w pobliżu siedlisk wielkich kotów do łatwych nie należy. Atak lwa – jeśli uda się go przeżyć – jest doświadczeniem traumatycznym.* The English translation of the sub-headline is as follows: *Life in the vicinity of the habitat of big cats is not easy. The attack of a lion – if one can survive it – is a traumatic experience.* It is evident that in this case the content of the sub-headlines in the two language versions has nothing in common as they are different in meaning and, though both related to the article's content, they concentrate on different aspects of living with the lions. In the English sub-headline the lion is central and in the Polish one people in relation with the lions (and their safety) are in focus.

The last sub-headline discussed taken from the article *Sorrow on the Mountain* is very informative, it reads: *The worst climbing accident in Everest history left 16 mountain workers dead and the future of their profession uncertain.* The Polish sub-headline (of the article entitled *Szerpowie,* 'Sherpas') in turn, though evidently related in content, is much more vague and less informative, it reads: *Trudno wyobrazić sobie bez nich wspinaczkę na Everest. Wielu stanęło na tym szczycie po wielokroć i wielu zginęło.* In the English translation the passage reads: *It is difficult to imagine climbing Everest without them. Many reached the mountain peak many a time and many lost their lives.* Since the article is about Sherpas and the accident that took place, the Polish sub-headline seems to be a bit under-informative.

To sum up, *Figure* 3. below illustrates the results of the qualitative and quantitative analysis of the sub-headlines proposed and carried out by the author of the paper. The analysis has been conducted according the criteria of informativeness and expressiveness in the two language versions.

National Geographic Polska sub-headlines (January 2013-December 2014) 91 (100%)			
Polish sub-headlines which are more informative than English ones 63 (69,5%)	Polish sub-headlines which are more expressive than English ones 2 (2%)	Polish and English sub-headlines which have different meaning 24 (26,5%)	Polish sub-headlines which are less informative than English ones 2 (2%)

Fig. 3. The table illustrates the qualitative and quantitative results of the analysis of *National Geographic* sub-headlines

Rys. 3. Tabela przedstawia jakościowe i ilościowe wyniki analizy nagłówków dodatkowych *National Geographic*

The table makes it evident that in the majority of cases Polish sub-headlines are more informative (69,5%); they can also have different meaning (26,5% of cases) and in rare cases they can be more expressive (2%) (containing more vivid and metaphorical language) or even less informative (2%) than the English ones. Consequently, a thesis might be proposed that since Polish headlines are usually shorter than the English ones, to make up for the apparent loss of information or sometimes expressiveness (since Polish headlines often lack the linguistic beautifying layer provided by the adjectives, for example) the sub-headlines in the Polish edition are usually longer and more informative than the English ones.

Conclusions

The paper compares and analyses the headlines of ninety-one articles published (from January 2013 to December 2014) in the American version of *National Geographic* and their Polish translation or their equivalents. The analysis shows that the translated headlines can be categorised according to the equivalence degree, into: optimum and near-optimum translation, partial translation/equivalence (which is subdivided into weak translation done by means of words similar or dissimilar in meaning) and zero equivalence. The last two categories, zero equivalence and weak equivalence, turn out to dominate in the translation of *National Geographic* headlines (eighty cases have been identified).

In other words, one-to-one correspondence is quite rare in the translation of *National Geographic* headlines; accordingly, quite different headlines or headlines with some deviations, e.g. stylistic, formal, semantic and informational non-correspondence are quite frequent. One can also observe the tendency to simplify Polish headlines; quite often some information is omitted or altered. This supports the thesis that they are not written by translators but rather by journalists – headline writers – or with some cooperation with them. In addition, since press articles are created on the basis of the inverted pyramid method, which ensures that the most important and relevant information is delivered to the reader at the very beginning (by the headline in particular), it may be assumed that this is one of the factors of the non-equivalence in the headline translation, considering that readers of different cultures and societies are attracted to headlines in different ways. Polish headlines are more concise and science oriented, while English ones are more popular in character (or related with pop culture).

As far as the equivalence degree in the sub-headlines of this journal is concerned the analysis has revealed that English and Polish sub-headlines are very different and there is no sense in taking about their semantic or pragmatic equivalence. English sub-headlines are short, concise and usually more expressive, while Polish ones are more detailed and informative. Only in rare cases are the Polish sub-headlines more expressive rather than informative. It also often happens that a totally different information, though related with the article's content, is conveyed or emphasized by the sub-headlines in the two languages.

To sum up, the analysis has revealed that Polish sub-headlines are more informative (69,5%); they can also have different meaning (26,5% of cases) and in rare cases they can be more expressive (2%) (containing more a vivid and metaphorical language) or less informative (2%). Finally, all the procedures discussed above seem to be implemented to satisfy the readers' expectations and different stylistic and cultural requirements as far as popularization of science or popular science style is concerned in the two languages/cultures.

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Source materials

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Omówienie

Artykuł porównuje i analizuje nagłówki dziewięćdziesięciu jeden artykułów publikowanych (od stycznia 2013 do grudnia 2014), w amerykańskiej wersji National Geographic i ich tłumaczenia na język polski lub ich odpowiedniki. Analiza pokazuje, że przetłumaczone nagłówki mogą zostać podzielone według stopnia równoważności, w: optymalne i prawie optymalne tłumaczenie, tłumaczenie częściowe/równoważność (które jest podzielone na tłumaczenie słabe wykonane za pomocą słów podobnych lub niepodobnych w rozumieniu) i zerową równoważność. Dwie ostatnie kategorie, zerowa równoważność i słaba równoważność, okazują się dominować w tłumaczeniu tytułów National Geographic (zidentyfikowanych zostało osiemdziesiąt przypadków). Podsumowując, analiza wykazała, że polskie nagłówki dodatkowe są bardziej czytelne (69,5%), mogą też mieć inne znaczenie (26,5%) oraz, w rzadkich przypadkach mogą być one bardziej wyraziste (2%) (zawierające bardziej żywy i metaforyczny język) lub uboższe w informacje (2%).