Analysis of the Structure of Scientific News Headlines in Online Newspapers

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Abstract

Newspaper headlines are described as compressed and ambiguous pieces of discourse that represent the bodies of the articles. Their main function is to provide the readers with an informative message they would have no prior idea about. Ifantidou (2009) claims that the function of a headline is to get the readers' attention rather than providing information because it does not have to represent the whole of the article it refers to. This paper aims at examining this hypothesis in relation to scientific news headlines reported by a number of news agencies. The paper follows Halliday (1967) information structure theory by applying it on ten selected headlines; each two headlines represent one scientific discovery reported by different news agencies. One of them is presented by the most popular news agency on science; National Geographic then it is compared to one of the well-known news agencies like BBC, Reuters or Yahoo. The results showed that scientific news headlines are more informative than being just catchy headlines. It is also found that National Geographic news agency is more informative than any other agency because it is specialized in science. It is concluded that the more new information units a headline includes the less ambiguous it is for the readers.

Keywords: Given and new units of information, Halliday information structure theory and scientific news headlines.

تحليل البنية المعلوماتية للعناوين الأخبارية في المجلات الألكترونية
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الملخص

غالبا ما توصف عناوين الأخبار في الصحف والمجلات بأنها نصوص غامضة المعنى ومختصرة تمثل العنوان للمقالة التي تحتها. تعد الوظيفة الرئيسة لتلك العناوين هي جذب أهتمام و أنتباه القارئ و رفده برسالة تحمل معلومة جديدة تضاف الى ما قد يعرفه القارئ مسبقا. يقول أيفانتيدو (2009) بأن وظيفة العناوين تقتصر على جذب أنتباه القارئ أكثر من كونها رافدة للمعلومات وذلك يعود الى كونها لا تمثل المقالة التي تشير أليها بسبب غموضها. حيث يهدف الباحث الى أختبار تلك الفرضية على عناوين الأخبار العلمية من عدد من وكالات الأنباء العالمية المختلفة. ويمكن برهنة صحة أو ضعف تلك الفرضية من خلال تطبيق نظرية هاليدي (1967) البنية التحتية للمعلومات على عشرة من العناوين المختارة. حيث أن كل أثنين من تلك العناوين تمثل خبرواحد لأكتشاف حقيقة علمية جديدة لكن واحدة محررة من الوكالة العالمية للأنباء العلمية ناشونال جيوغرافيك والأخرى مقدمة من أحدى الوكالات العالمية المختلفة والمقارنة بين أسلوب العرض وكم المعلومات المحررة لتلك الوكالات. توصل الباحث الى أن ألاخبار العلمية تشكل مصدر لرفد المعلومات أكثر من كونها جاذبة لأنتباه القارئ فقط. وكذلك وجد أن وكالة الأنباء ناشونال جيوغرافيك تعتمد الأسلوب الرافد للمعلومات أكثر من باقي الوكالات كونها وكالة متخصصة بأخبار الحقائق العلمية. وقد أستنتج بأنه كلما كان المحرر رافدا عناوين الأخبار بالمعلومات كلما كان الغموض أقل والمعنى أوضح للقارئ المتلقي ومحفزا له لأكمال قراءة المقالة والحصول على تفاصيل أكثر.

الكلمات المفتاحية: نظرية البنية المعلوماتية لهاليدي، وكالة الأنباء ناشونال جيوكرافيك، عناوين الأخبار العلمية.

Introduction

Language as a means of communication among people can take various forms that can be received by human beings. One of the daily received forms of language is news headlines that no one can start his/her day without reading or even hearing news. Some people usually read the headlines only without moving to read the whole article in order to save time. First of all, it is important to linguistically define a headline as a piece of discourse that functions as a title that encapsulates the content of the article below it. In terms of The Cambridge Encyclopedia of Language (1978) by David Crystal, headlines occur in full gigantic size letters and have their unique set of grammatical rules. It stands like an independent language by itself. This language uses some rhetoric devices like humor, puns, alliteration and word play with the intention of attracting the readers' attention. Headlines come to use for the first time in the late nineteenth century, when the competition between newspapers increased to see which one to catch the readers' attention more. This fact sheds light on the main role of headlines which is to get the readers' interest and attention to the story and motivate them to move to read the whole article so as to collect all parts of the story. It is usually composed and written by the newspaper's editor or reporter who tries to use different devices and strategies in order to attract the attention. Headlines are always accused of being ambiguous, because a head may carry double meaning that has two different interpretations.

Language of Headlines

As an important part of the reporters' job, catching the readers' eyes and attention, needs to follow certain linguistic techniques in terms of different linguistic levels. In terms of the graphological level of linguistics, headlines are usually written with special font style and size. They are always presented in the upper case letters with a special kind of punctuation. As long as the reporters have no enough time and space to present headlines, they use various strategies like abbreviation, acronym, clipping, etc, in order to shorten the units of their headlines. They have to compress the information they send to the reader whose role is to infer the whole message. Reporters usually abbreviate words to save time and space like using the word "Pols" to indicate politicians and the word "Dems" to indicate Democrats (Moe, 2014).

In terms of the phonological level of linguistics, reporters use rhymes and alliteration in their headlines. As long as news headlines are presented in written printed form, there is no chance to pronounce the news. The reporters also use these phonological devices with the intention of attracting the readers' attention. They use rhymes in presenting their words like similar vowel sound in "rain" and "pain". They also use alliteration that is clear when the first letter in each word of the headline is repeated as in "Media makes Madonna mad" (Moe, 2014).

At the grammatical level of linguistics, headlines are written with compressed forms of grammar because of the limited space in newspapers. Firstly, the verb "be" is always omitted as in "Two bodies found after shooting". The verb "are" after the word "bodies" is omitted. Secondly, the indefinite articles "a, an" are also omitted as in "Teenager found after 26 days lost in bush". In addition to the omission of the verb "is" before found, the indefinite article "a" before the word "Teenager" is also omitted. Thirdly, there are only three tenses used in writing headlines namely; simple present, simple past and future. Reporters always use the present tense to represent events happened in the past as well as in the present in order to make the reader feel that the event has just happened (Iris, 2013). Reporters use simple past for the very old events and (to verb) to express future to save space. Finally, headlines are written with some commas that replace conjunction as in "Bush, Blair laugh off microscope mishap" (Moe, 2014).

In terms of the lexical level of linguistics, headlines reporters often replace the long words with their synonymous shorter ones for example, they use the word "quiz" instead of "interrogate", the word "wed" instead of "marry" and the word "row" instead of "argument". At last semantically speaking, headlines can carry ambiguous meanings because the reporters use puns playing with

words meaning to have unintentional double meaning. Sometimes reporters use this strategy with the intention of saving the little space for writing in newspapers. Some of them use these puns for the purpose of getting the readers' attention and raising their curiosity to know the right intended meaning (Moe, 2014).

Information Structure Overview

Unlike the structural definition of discourse as being a particular unit of language above the sentence, information structure deals with how information is organized within smaller units of discourse at the level of phrase or clause. The theory of information structure is traced back to the scholars of the Prague school before the Second World War. In the last century, the sentence structure was influenced by psychology that led to an additional level of description of the organization of the sentence by the use of contrasting terms like (psychological subject and psychological predicate). Regarding language as one of the significant means of communication, Paul (1880) modified the theory and Ammann (1928) shifted the concentration from psychology to communication using two new terms called (theme/rheme) to refer to information units (as cited in Heusinger 1999, 2003).

Halliday (1967) was the first linguist who used the term "information structure" independently and set its concept. He concentrated on the structure of intonation in English and its role in sending a new/given message. He adopted the Prague school insight in his influential article "Notes on Transitivity and Theme in English". He found that the English clause structure is made up of three main areas namely; Transitivity, Mood and Theme. Transitivity refers to the cognitive content of the clause structure that is concerned with an extra-linguistic experience like feeling, thoughts etc. Mood refers to the speakers' different roles. It depends on what the speaker intends to do whether to inform, ask, command, confirm, request etc. Finally, theme refers to the status of the clause elements as components of a massage. The term theme has two different uses. The first is used as being the general name that is concerned with communicative function, whereas the other use is to deal with the distribution of information in the clause as a massage. Halliday (1967) states that "transitivity is the grammar of experience, mood is the grammar of speech function and theme is the grammar of discourse".

Halliday sets that information consists of two distinguished categories. The first term is "new" that the addressor supposes that the unit of information is unknown to the addressee. The second is "given" by which the addressor supposes that it is already known for the addressee either because it is previously mentioned or it is part of the common knowledge shared by the addressor and the addressee. So Halliday applies the information theory to the spoken form of language so he deals with English spoken clause that the organization of new and given information has been marked off by intonation in English as he claims "Information structure is realised phonologically by 'tonality', the distribution of the text into tone groups: one information unit is realised as one tone group" (Halliday, 1967: 200)

In the light of Halliday recognition, the spoken discourse that is distributed into information units is obligatory because he thinks that the "text must consist of a sequence of such units." The speaker has the right to organize the limits of the information units (Halliday, 1967: 200). These information units are expressed in English by intonation patterns that Halliday and Hassan regarded as the only feature of spoken English. As for the written discourse, information can be distributed into units by the use of punctuation (Halliday & Hassan, 1976).

Halliday in his theory tries to match between the information structure and the phonological structure. So, he states that the speaker has a massage to be sent phonologically in the form of independent information units "massege blocks" whether given or new. That is why he equalizes between each one unit of information with one tone group. Thus, information structure leads to the phonological structure and vice versa (Halliday, 1967) .

Halliday (1967) defines the two terms given/new units of information by regarding the given as "recoverable either anaphorically or situationally" for the reader and the hearer. In other words, the given unit can be recovered either by a reference stated anaphorically or by the situation itself. As for the new unit of information, it has three forms: the first form is informative and focal that is not recoverable from the previous discourse; the second form is contrastive that means "contrary to some predicted or stated alternative"; the last form is represented by the answer of wh-question as it is stated by Halliday replacing the wh-elements in a presupposed question. So the term "focus" refers to the new unit of information that is of three types: informative, contrastive and focus-question.

Chomsky (1971) uses his terms (focus/presupposition) to refer to Halliday's (new/given) terms. Chomsky's definition of focus is "the phrase containing the intonation centre", whereas the presupposition is the sentence "minus the focus elements." As long as Chomsky is always interested in the dichotomy of surface/deep structure, he contradicts Halliday by interpreting the focus/presupposition semantically as he states "The notion 'focus', 'presupposition', and 'shared presupposition' (…) must be determinable from the semantic interpretation of sentence, if we are to be able to explain how discourse is constructed and, in general how language is used" (Chomsky, 1971: 205).

Chomsky's semantic interpretation of the sentence is then developed into semantic theory by Jakendoff (1972) and Hohle (1982). Unlike Jakendoff and Hohle who are concerned with the semantic level of organizing the information units, Chafe (1976) is concerned with how discourse is organized psychologically. He states that organization of discourse depends on the beliefs of the hearer and the speaker. So he shifts Halliday's theory of givenness from the phonological model into the psychological model of consciousness of the hearer and the speaker. Chafe (1976) defines the given unit of information as that knowledge already exists in the consciousness of the addressee. Whereas the new unit of information is what the speaker introduces into the addressee's consciousness or the hearer. So Chafe uses Hallidian terminology (new/given) and states in that we activate the given unit of information in the addressee's consciousness that already exists or activate the new unit for the first time in the addressee's consciousness (Chafe, 1976).

In contrast to the Hallidian view of block messages, Chafe is famous of his "information packaging" metaphor to refer to the image of how the way a toothpaste is packed affects sales rather than the real quality of that toothpaste itself. In parallel interpretation of this metaphor on the information messages, Chafe is concerned primarily with how the messages are sent and secondarily by the content of the messages itself.

Finally, he concentrates on "nouns" as one unit of information that may come in the form of new/given, focus of contrast, definite/indefinite, subject of the sentence, the topic of its sentence or point of view.

Vallduvi (1990) developed the information packaging of Chafe by extending the information structure into three units, namely: "link, tail and focus". The link unit usually refers to the subject of the sentence, the tail refers to the verb and the focus refers to the new part of the units which is represented by the object as in the following example:
John drinks beer
Link، tail ، focus

Thus, all of the aforementioned views by different linguists started from the 1960s to the 1990s and they had one similar point. They all try to divide discourse into information units whatever is the terminology *given/new or given/focus*. They all work together to achieve the main purpose of sending the message coherently and with a new piece of information.

Methodology

The data used for this study are collected from a number of online newspapers. The researcher talked five scientific news headlines reported by the most widely known news agency national geographic website. The researcher aimed at making a comparison between national geographic headlines and the same scientific news headlines reported by a number of well-known news agencies like Reuters, BBC, and yahoo news.   Halliday's (1967) "Information Structure Theory" will be the model of the analysis of scientific news headlines. Each headline is going to be divided into new units, represented by numbered "focus", and given units of information. Each headline is classified as (a) and (b). Letter (a) stands for a headline from national geographic website and letter (b) stands for the same news story reported by one of the aforementioned news agencies. The types of the new units are identified as informative, wh- question or contrastive. Each extracted unit of information given or new is signaled by lexical textual units represented by numbered separate words or phrases. Consequently, the current scheme of analysis will clearly show the comparison between the way and style of each news agency and how they report the news.

Analysis of Scientific News Headlines

Headline 1: a) New "chicken from Hell" Dinosaur found (national geographic, 2014)

This headline is organized in terms of given/new units of information. So, the words "*chicken*" and "*dinosaur*" are the given units of information that reflect the common knowledge of the readers. All people have a conceptual background in mind that defines these two different species of animals. The second part of the current headline carries the new unit of information (focus) represented by "*New*", "*from Hell*" and "*found*". These units cannot send the message of new information alone without being combined with the given one. So it has two new units or focus; the first is "*new chicken from Hell*" that gives the reader a new unit of information referring to a chicken that comes from hell and the second focus is represented by "*dinosaur found*" to refer to the discovery of a new fossil of dinosaurs. So the scientific news headline here needs two focuses to send the factual message of discovering the fossil of a new species of dinosaur that is like a chicken in shape named "*chicken from hell*".

Headline 1: b) Weird "Chicken from Hell" Dinosaur Lived (Washington Reuters, 2018).

The same scientific news story is presented here by Washington Reuters website. This headline has the same given units presented by "*chicken*" and "*dinosaur*" but they use different focus to send the same scientific message reflected by "*weird*" and "*lived*". The first focus describes the "*chicken from hell*" by weird to denote its strangeness. The second focus is "*dinosaur lived*". Both focuses are integrated to shed light on the fact that a strange species of dinosaur fossil is discovered to live in the past.

Table 1: information structural analysis of Headline1.

Head1(a)	New "chicken from Hell" Dinosaur found		
Focus		**Type**	**Given**
Focus 1	New	Informative	Chicken
Focus 2	From Hell	Informative	Dinosaur
Focus 3	Found	Informative	
Head1 (b)	Weird "Chicken from Hell" Dinosaur Lived		
Focus		**Type**	**Given**
Focus 1	Weird	Informative	Chicken
Focus 2	From Hell	Informative	Dinosaur

Focus 3	Lived	Informative	

Headline 2: a) Stick Insects Have Mimicked Plants since Age of Dinosaur (national Geographic, 2014)

The headline starts with the phrase "***stick insect***" that has two units of information the word insect that is classified under the given units of information because it is part of the common known tiny species of animals. That second word is "***stick***" that represents the first focus that sheds light on the type of that insect because not all people know this type which is similar to stick in its shape. The second focus is signaled by the unit "***have mimicked plants***". It sends a new unit of information about that stick insect that likes to imitate plants by being disguised on the green leaves. The third focus presents the time of that habit of the stick insect which is signaled by the unit "***since age of dinosaur***". It shows that this habit exist since the time when dinosaurs were alive.

Thus, headline (a) has three integrated focuses signaled by three new units of information. These focuses send the scientific message to the reader whose job is to match what s/he has already known about "***insects***", "***plants***" and "***age of dinosaurs***", the given units, and the new units signaled by "***stick***", "***mimicked plants***" and "***since***". By matching the given and new units of information the reader will consequently receive the scientific news message that carries the fact that stick insect was used to be disguised on the plants leaves since the age of dinosaurs.

Headline 2 b): Leaf me alone: Ancient Insect Blended in with Foliage (Washington Reuters, 2018)

The headline carries given units of information signaled by "***ancient insect***" and two focuses represented by "***blended in***" and "***with foliage***". The first part of the headline "***leaf me alone***" seems to be given a unit because it is an order that has common words. The reader is somehow distracted for the first time when reading this sentence. The reader will wonder whether the word "***leaf***" refers to the verb "***leave***" or the noun "leaf". When it is analyzed, it is found that it describes the state of that ancient insect by substituting the word "***leave***" by its homophone "***leaf***" to refer to the state of being alone on a leaf. It merges the two new units of information in a short one, so it is not given unit any more. Matching the above focus with the next new unit signaled by "***blended in with foliage***", the scientific message is clarified more because it describes how that ancient insect is combined and associated with leaves as one entity that cannot be distinguished.

Table2: information structural analysis of Headline2

Head2 (a)	Stick Insects Have Mimicked Plants since Age of Dinosaur		
Focus		**Type**	**Given**
Focus 1	Stick	Informative	Insect
Focus 2	Mimicked plants	Informative	Age of Dinosaur
Focus 3	Since	Informative	
Head2 (b)	Leaf me alone: Ancient Insect Blended in with Foliage		
Focus		**Type**	**Given**
Focus 1	Leaf me alone	Contrastive	Ancient insect
Focus 2	Blended in	Informative	
Focus 3	With foliage	Informative	

Thus, national geographic sends the scientific message units of information in different way from the Reuters. They give three units of information in order to send the scientific message whereas the

Reuters concentrates only on one state of that insect being associated with the leaf without mentioning even the name of its species and the time.

Headline 3: a) Mystery of King Tut's Death Solved? May be Not? (National Geographic, 2013).

This headline has a scientific news story about the Egyptian king Tut which is already classified as a given unit of information because all people know him very well as one of the famous characters from history. The headline also carries new units of information about king Tut's death signaled by the focuses "mystery", "solved", and "may be not". The first one sends a message that there was something mysterious about the death of king Tut. The second focus gives new information that the mystery may be solved by a question mark that shows the uncertainty of the news. The last focus is signaled by the phrase "may be not?" that will make the reader return to the suspicion about the previously mentioned news about whether the mystery of king Tut's death has been solved or not?

b) "King Tut Spontaneously Combusted in his Coffin" (USA Today, 2013)

The same news story is reported by USA Today news website. This headline carries the given unit of information signaled by "King Tut" to which all the other new units refer. There are three units of focus signaled by "spontaneously', "combusted" and "in his coffin". The first two units show what is newly discovered about the mummy of king Tut. It is shown that his body is burned embodied by the phrase "spontaneously combusted". The third unit sends new unit of information about the place of that event signaled by "in his coffin". Thus, the three new units function together to send the scientific news message which tells that how it is naturally discovered that King Tut is burned in his coffin.

Table3: Information structural analysis of Headline3.

Head3(a)	Mystery of King Tut's Death Solved? May be Not?		
Focus		**Type**	**Given**
Focus 1	Mystery	Informative	King Tut's Death
Focus 2	Solved	Wh-question	
Focus 3	May be not	Contrastive	
Head3 (b)	King Tut Spontaneously Combusted in his Coffin		
Focus		**Type**	**Given**
Focus 1	Spontaneously combusted	Informative	King Tut
Focus 2	In his coffin	Informative	

Headline 4: a) "New-found Earth-size Exoplanet Doomed" (National Geographic, 2013)

Astronomers reported this scientific news by presenting four units of focus to describe a planet like "earth" which is the only given unit of information. The first new unit is signaled by the phrase "new-found" to denote that there is something newly discovered. The second focus refers to the description of that thing that is similar to earth in its size signaled by "earth-size". The third focus sheds light on that thing which is newly discovered. It is an "exoplanet" that the reporter does not use the word "planet" instead because he tries to tell us that it is not an ordinary planet but it is orbiting a star that is not our sun. The fourth and last focus is signaled by the word "doomed" that contrasts the situation of discovering a new planet like earth in size. It informs the reader that this discovery is very bad, ruined and useless without mentioning the reasons to let the reader go to the article and discover the matter by himself.

b) "Earth-like Planet Discovered, but It's Hotter than … Hell" (Newser, 2013)

This headline carries three given units of information signaled by "Earth", "planet" and "hell". They are all part of the readers common knowledge. The first two new units send the reader a message of discovering a new planet that is similar to earth but the reporter does not mention in which point the similarity is. It is signaled by the words "earth-like" and "discovered". The third focus is signaled by the conjunction "but" that contrasts the good news that precedes it. This contrast has been extended to the fourth focus that shows how this planet is completely different from earth signaled by "hotter than hell". Thus it is like earth in one property and contrasts it in its temperature that is too hot like hell.

Table4: Information structural analysis of Headline 4.

Head4(a)	"New-found Earth-size Exoplanet Doomed"		
Focus		**Type**	**Given**
Focus 1	New-found	Informative	Earth
Focus 2	Earth-size	Informative	
Focus 3	Exoplanet	Informative	
Focus 4	Doomed	Informative	
Head4 (b)	"Earth-like Planet Discovered, but It's Hotter than … Hell"		
Focus		**Type**	**Given**
Focus 1	Earth like	Informative	Earth
Focus 2	Discovered	Informative	Planet
Focus 3	But	Contrastive	Hell
Focus 4	Hotter than Hell	Informative	

Headline 5 (a): "Left or Right Tail Wags Elicit Different Emotional Responses from Dogs" (national geographic, 2013)

The reporter starts his headline with the given unit of information structure represented by one single movement of dog's tail signaled by "Tail Wags". Most of the readers already have an idea about the movement of the dogs' tails as part of their nature, but here the reporter tries to give new unit of information determined by mentioning the direction of the tails whether it is one single left or right wags. The reporter adds a second new unit of information signaled by the verb "elicit" and the phrase "different emotional responses". This new unit of information tells the reader what they will not expect that dogs can understand and respond to each other by what left or right direction means to them. The reader in this case is motivated to move to continue reading the article itself to discover that the left wag reflects the stressed emotional state of the dogs. In Parallel, the right direction reflects the relaxed emotional state for dogs. Thus, dogs' tails wags function as a language by which they can communicate with and respond to each other because by such a simple movement they can accept or refute people of other animals.

Headline 5 (b): "How Dogs' Tail Wags Speaks Volumes (to dogs) (Newser, 2013)

The reporter starts his head with wh-question signaled by "How" about the way the dogs tail wags, which is already a given unit of information, means a lot. The new focus is represented by the two words "speaks" and "volumes". The first focus is used to emphasize the idea that dogs' tails movement function as their language by which they can speak and communicate with each other signaled by the phrase "to dogs". The second focus "volumes" is a very general word that refers to a large amount of information that can be sent by such movement.

Unlike the national geographic reporter, this headline story does not specify the exact direction of the dogs' tail movement. Furthermore, the word "volumes" is a very general lexical signal because it

is unknown for the reader volumes of what responses, emotions or words? Thus, the story is presented by national geographic reporter in clearer and more specific way.

Table 5: Information structural analysis of Headline 5

Head5(a)	"Left or Right Tail Wags Elicit Different Emotional Responses from Dogs"		
Focus		**Type**	**Given**
Focus 1	Left or right	Question	Tail Wags
Focus 2	Elicit	Informative	From dogs
Focus 3	Different	Informative	
Focus 4	Emotional	Informative	
Focus 5	Responses	Informative	
Head5 (b)	"How Dogs' Tail Wags Speaks Volumes (to dogs)		
Focus		**Type**	**Given**
Focus 1	Speaks	Part of Wh-question "How"	Dogs' tail wags
Focus 2	Volumes	Part of Wh-question "How"	
Focus 3	To dogs	Part of Wh-question "How"	

Results and Discussion

The results of the analysis show that all of the selected numbers of headlines have given and new units of information. The dominant type of the new units is informative that is represented by 25 units in ten headlines. It is also found that collected data have only 3 contrastive units and 5 wh-question units. It is clear that the scientific news headlines are more informative than any other type of new units. The editors need to use more than one new unit of information in order to send the scientific message to the readers. Each headline has a scientific fact that is completed by its article in detail. Thus, scientific news headlines represent their articles because they provide the reader with a summarized and compressed line about a scientific story.

Conclusions

It is concluded that the shortness of scientific news headlines does not make them ambiguous because of the informative units that are found in each headline. Each headline carries an informative message that cannot represent the whole of the article it refers to. The application of Halliday's theory has a valuable role in classifying each news headline into given and new units of information. It can be shown how the readers can match between what they already know from their background knowledge about a subject and what they newly know as the last updated unit of information. This matching process will help the readers to disambiguate any headline. It is also found that the scientific news reported by National Geographic as being specialized in scientific news are more informative than any other agencies because it sometimes carries more than one informative new units. Thus, it is concluded that scientific news headlines are more informative than to be considered as an attention attracter and the more information units found in headlines the less ambiguous they will be for the readers.

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